

FIG. 1A

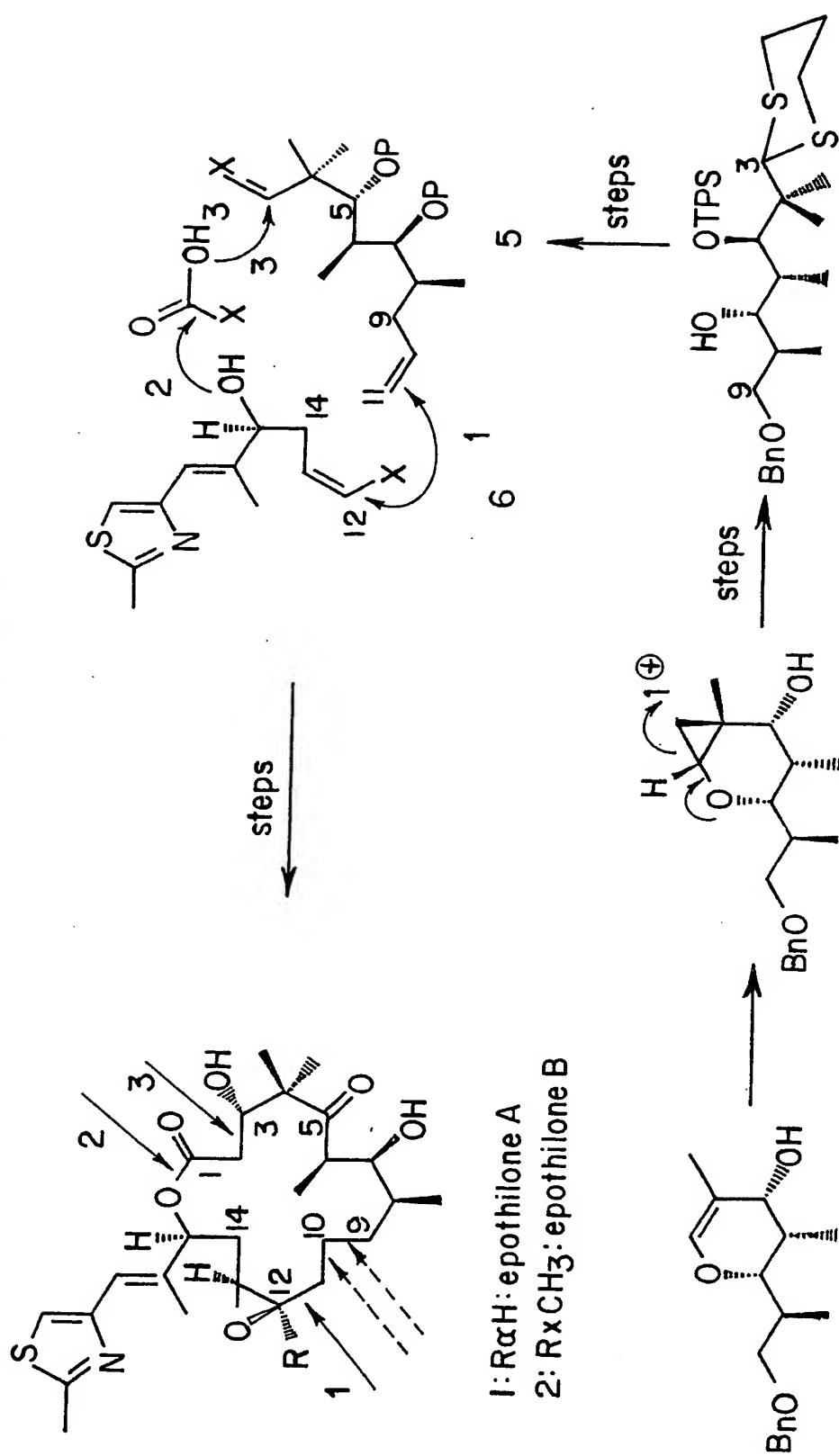


FIG. 1 B

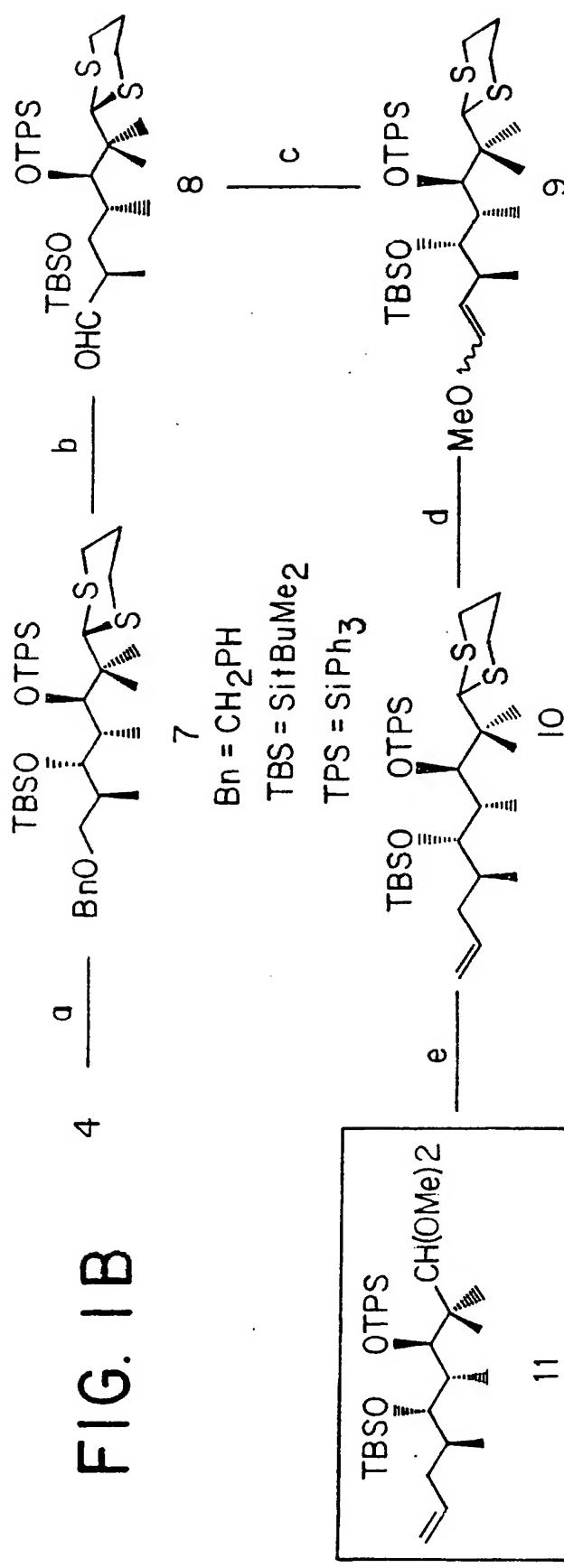
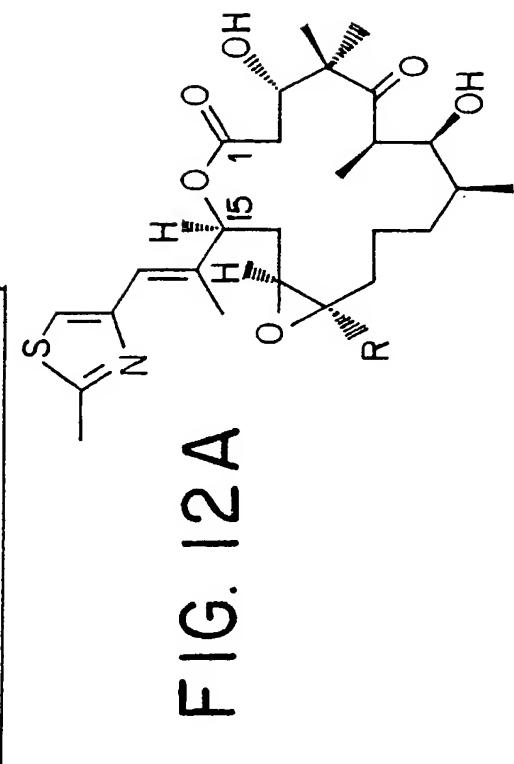


FIG. 12 A



R = H: epothilone A  
 R = CH<sub>3</sub>: epothilone B

FIG. 12 B

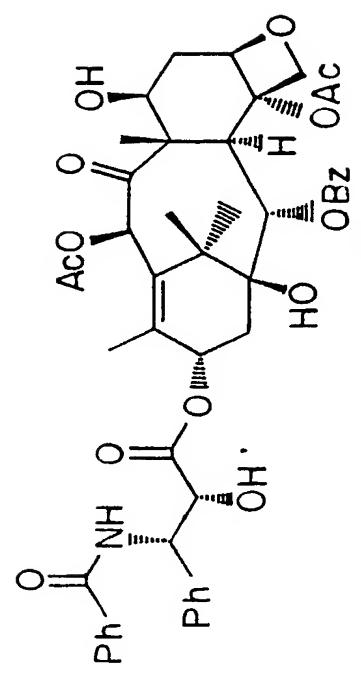
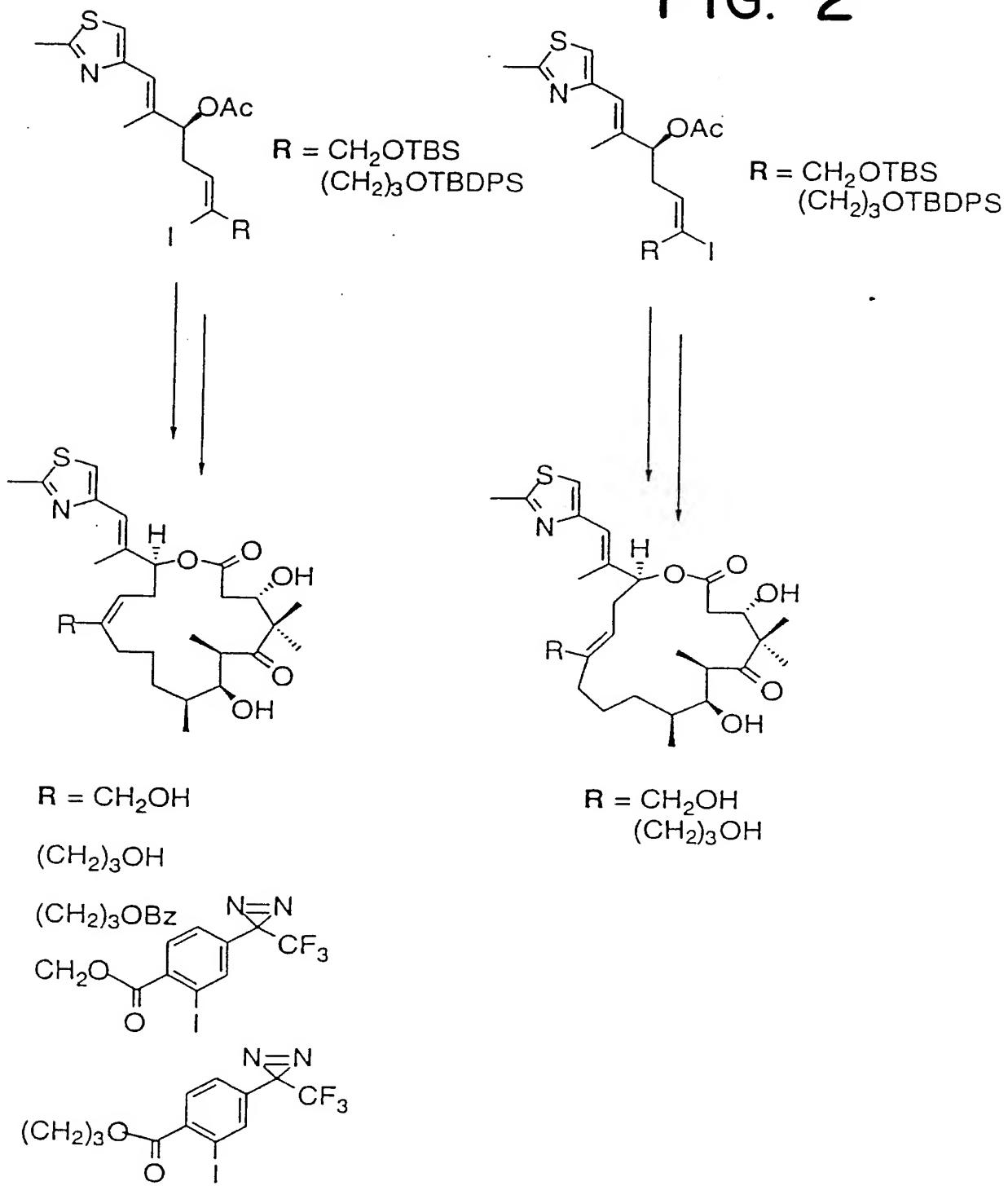


FIG. 2



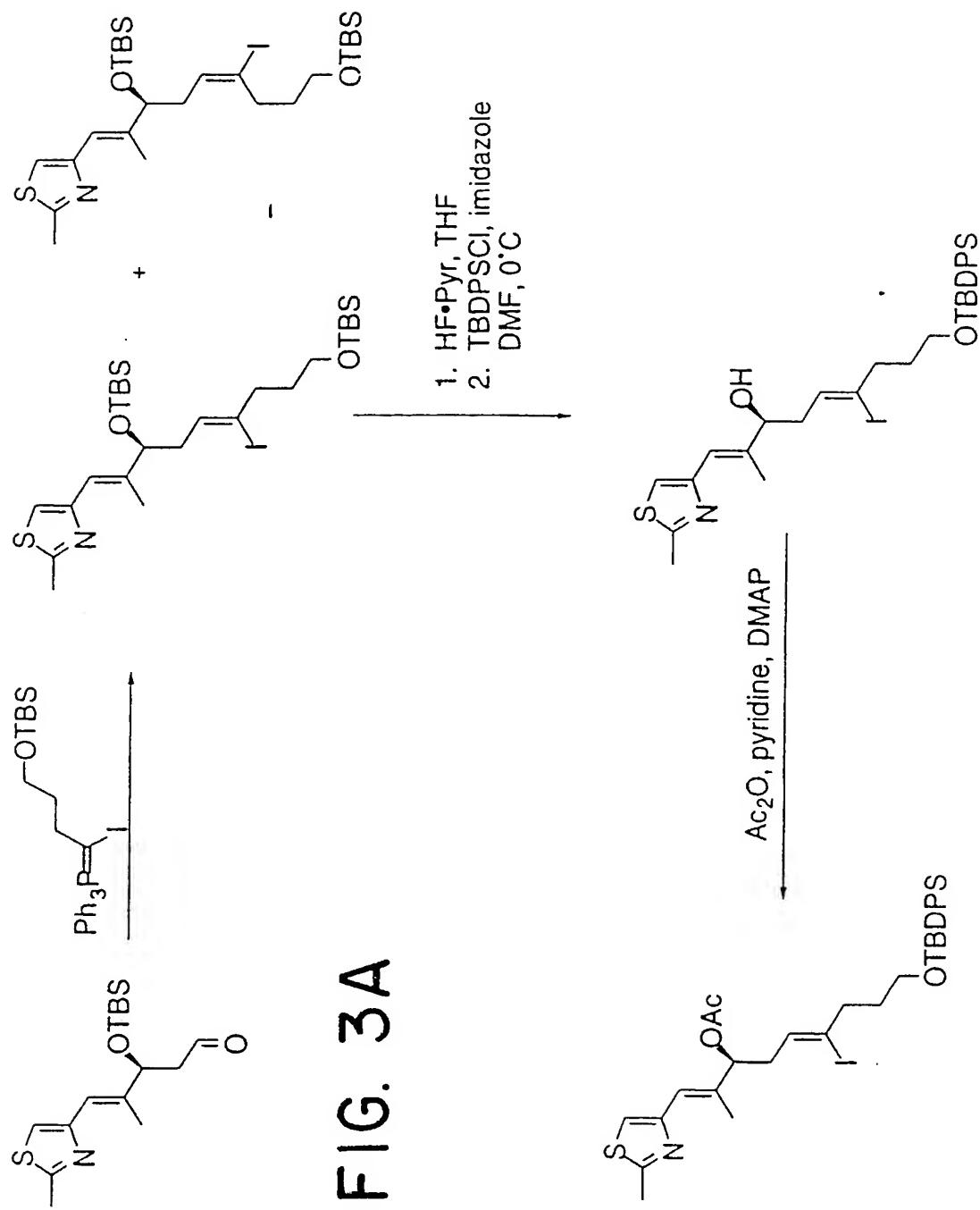


FIG. 3B

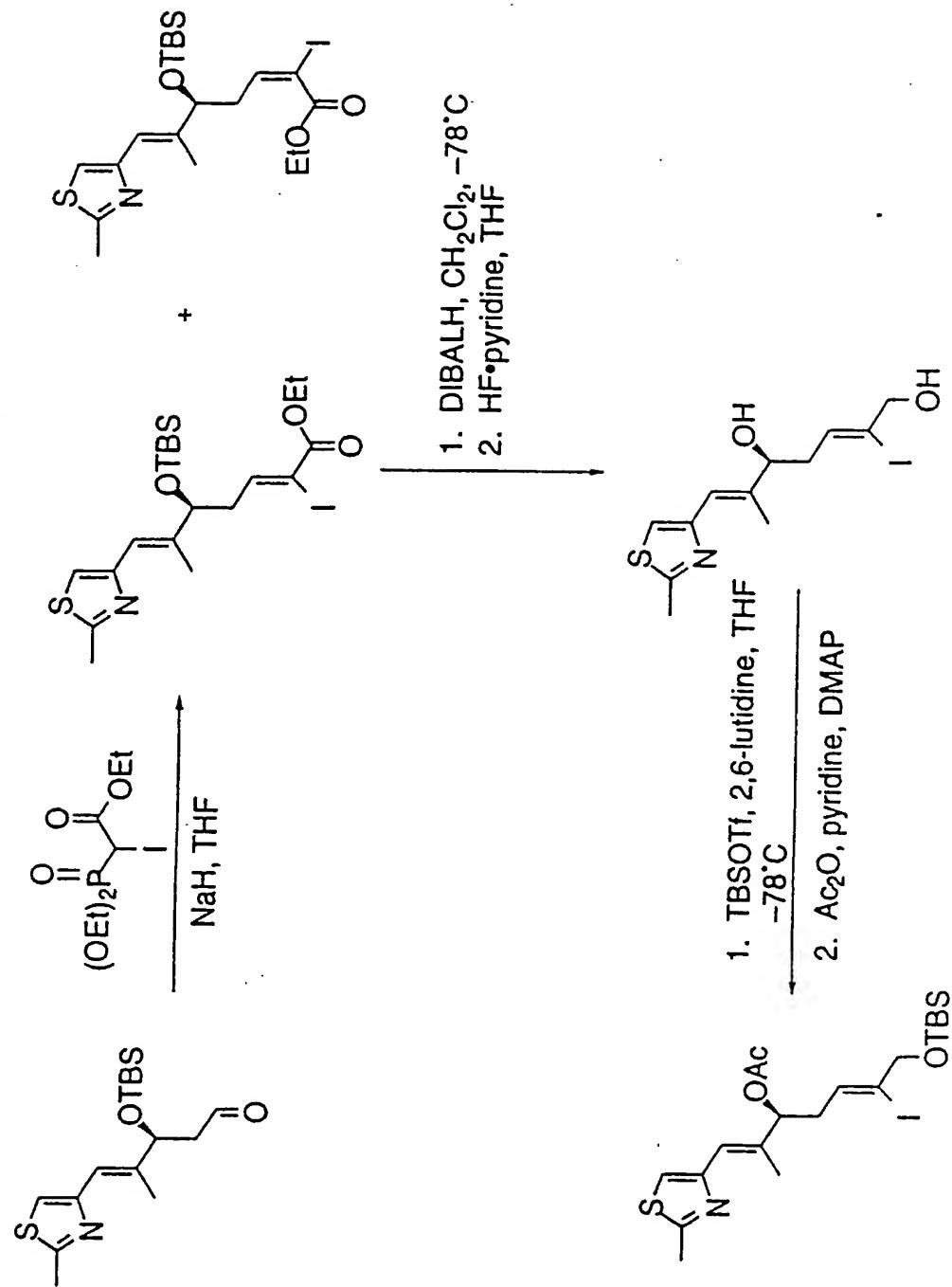
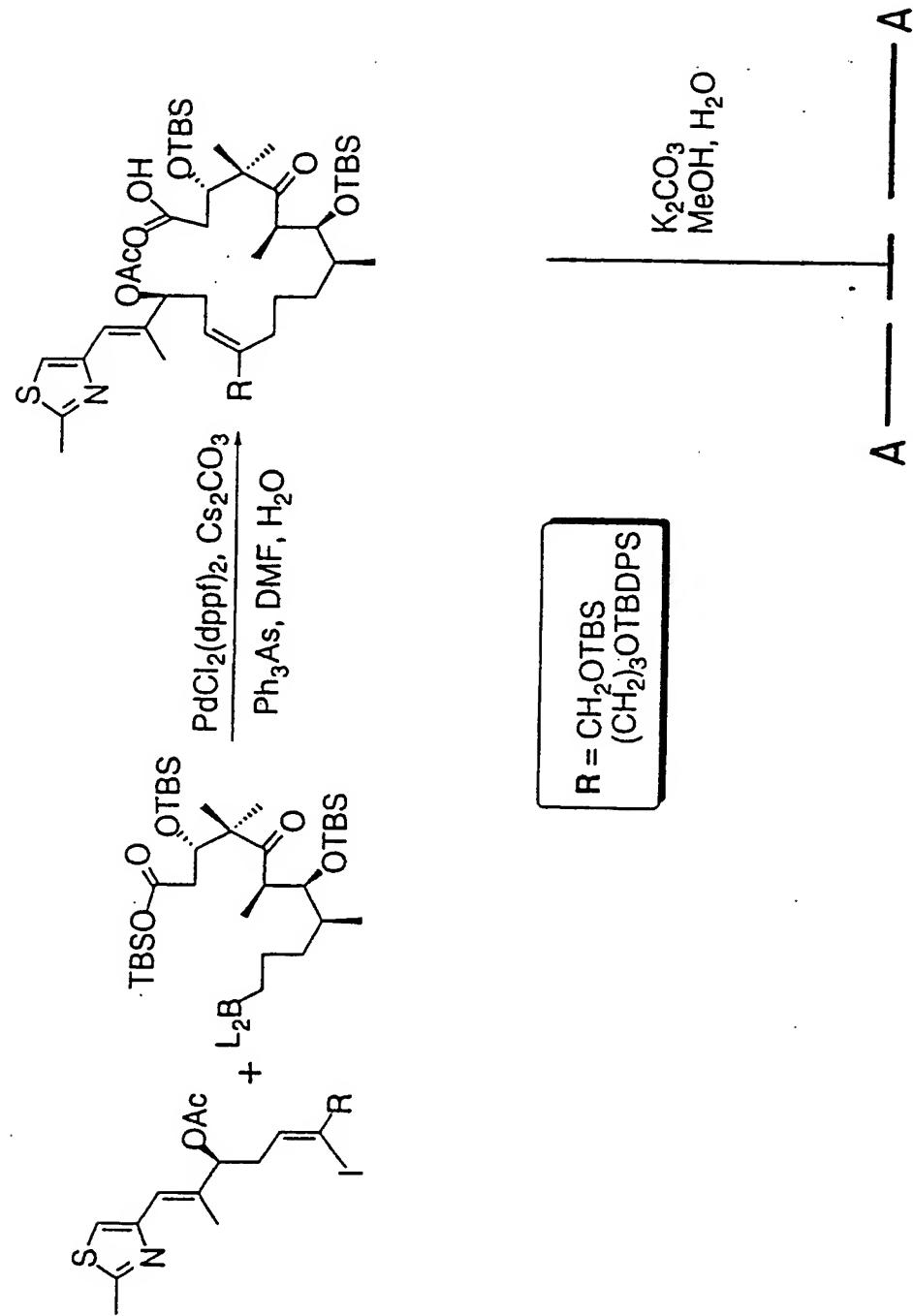


FIG. 3C



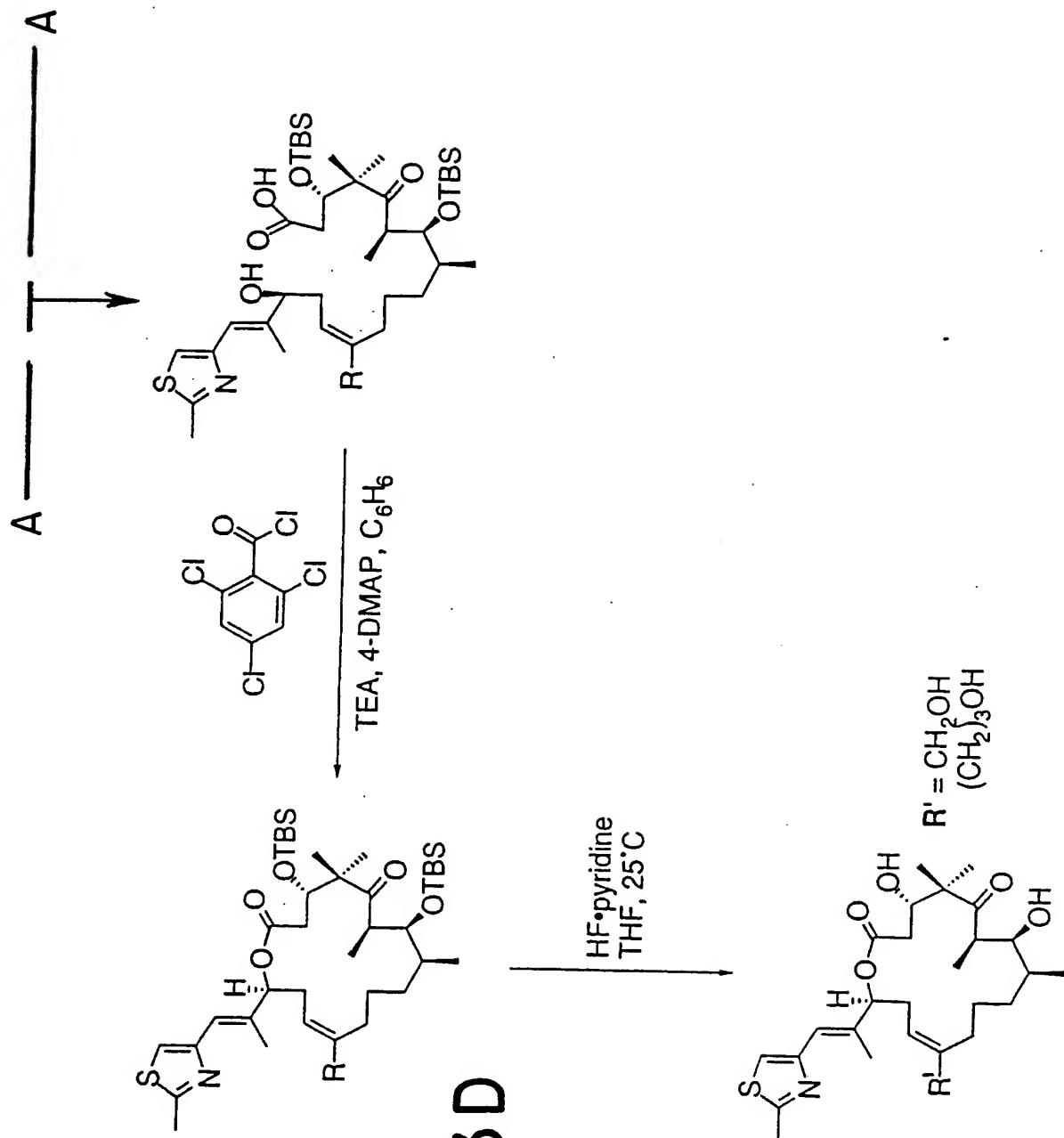


FIG. 3D

FIG. 3E

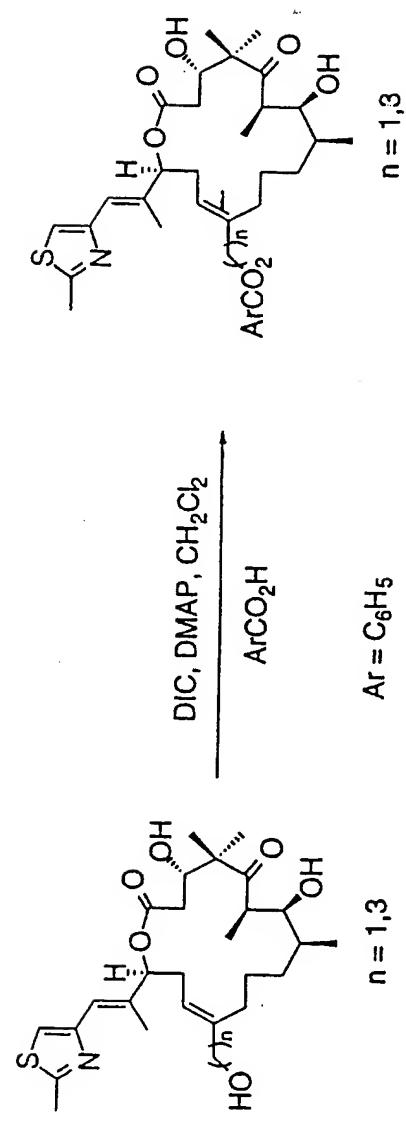


FIG. 3F

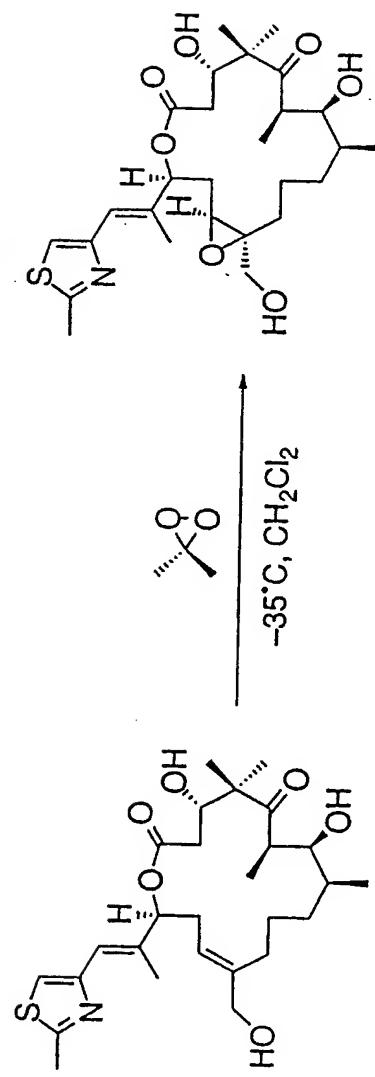


FIG. 4A

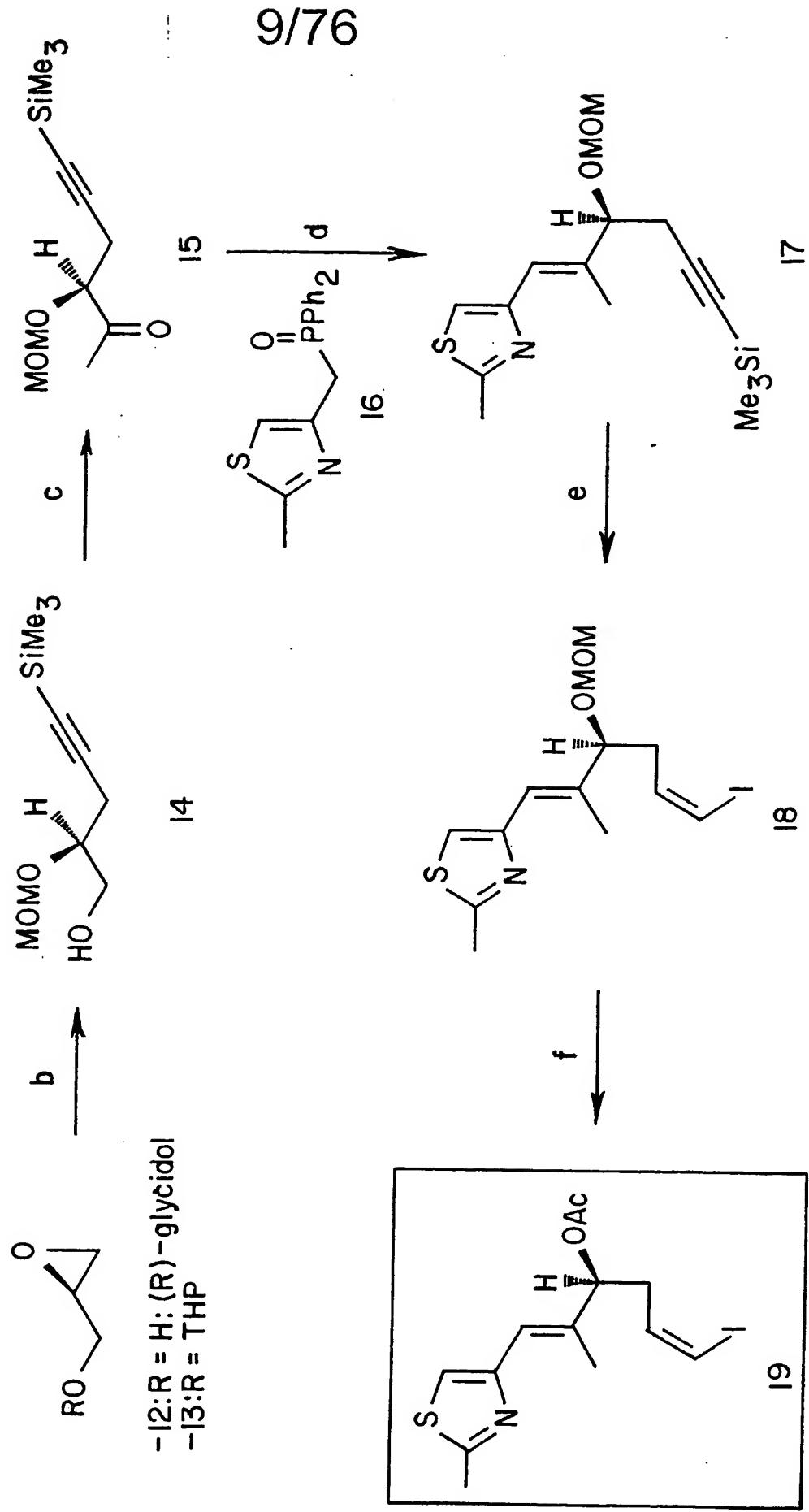


FIG. 4B

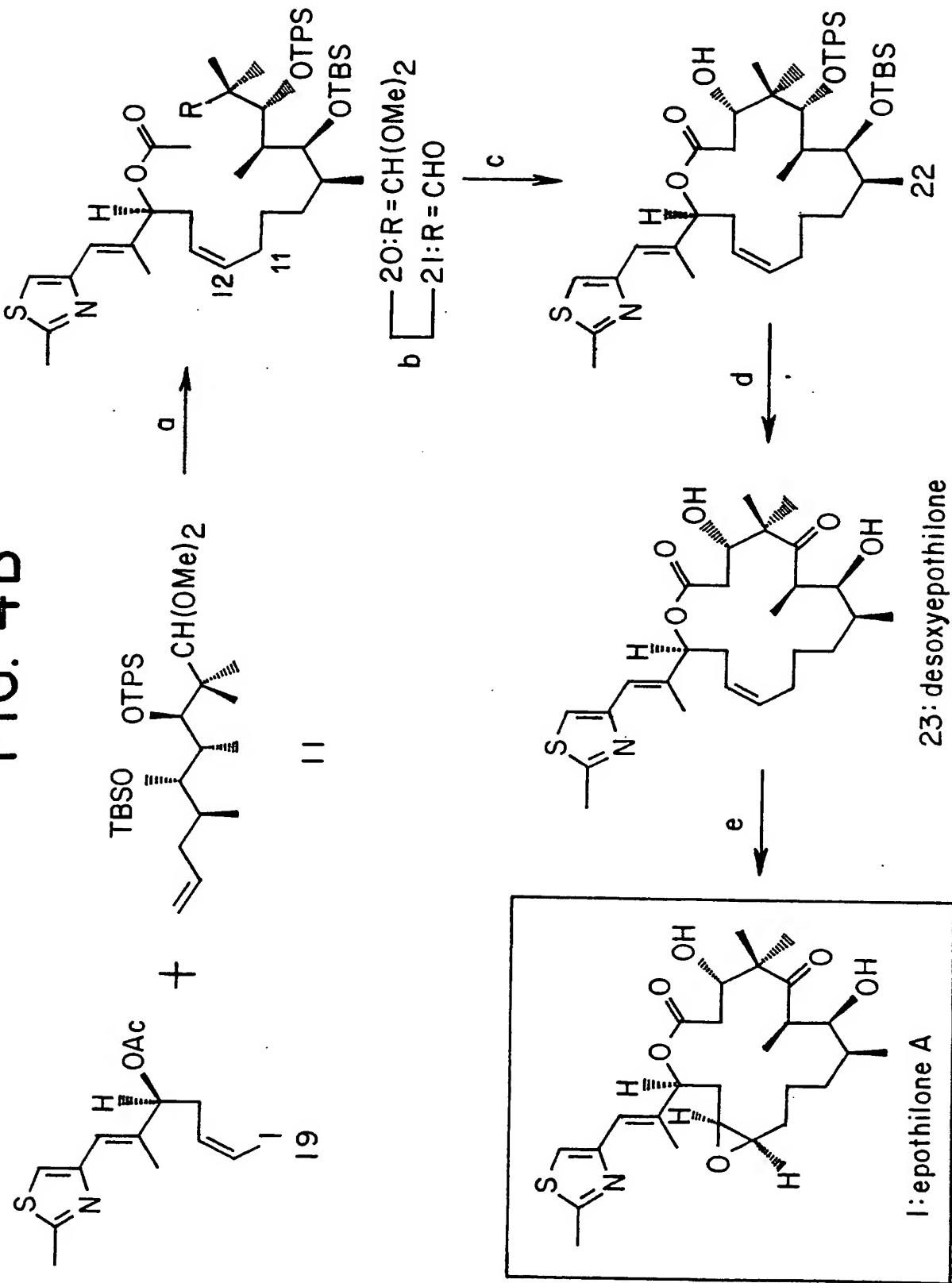


FIG. 5

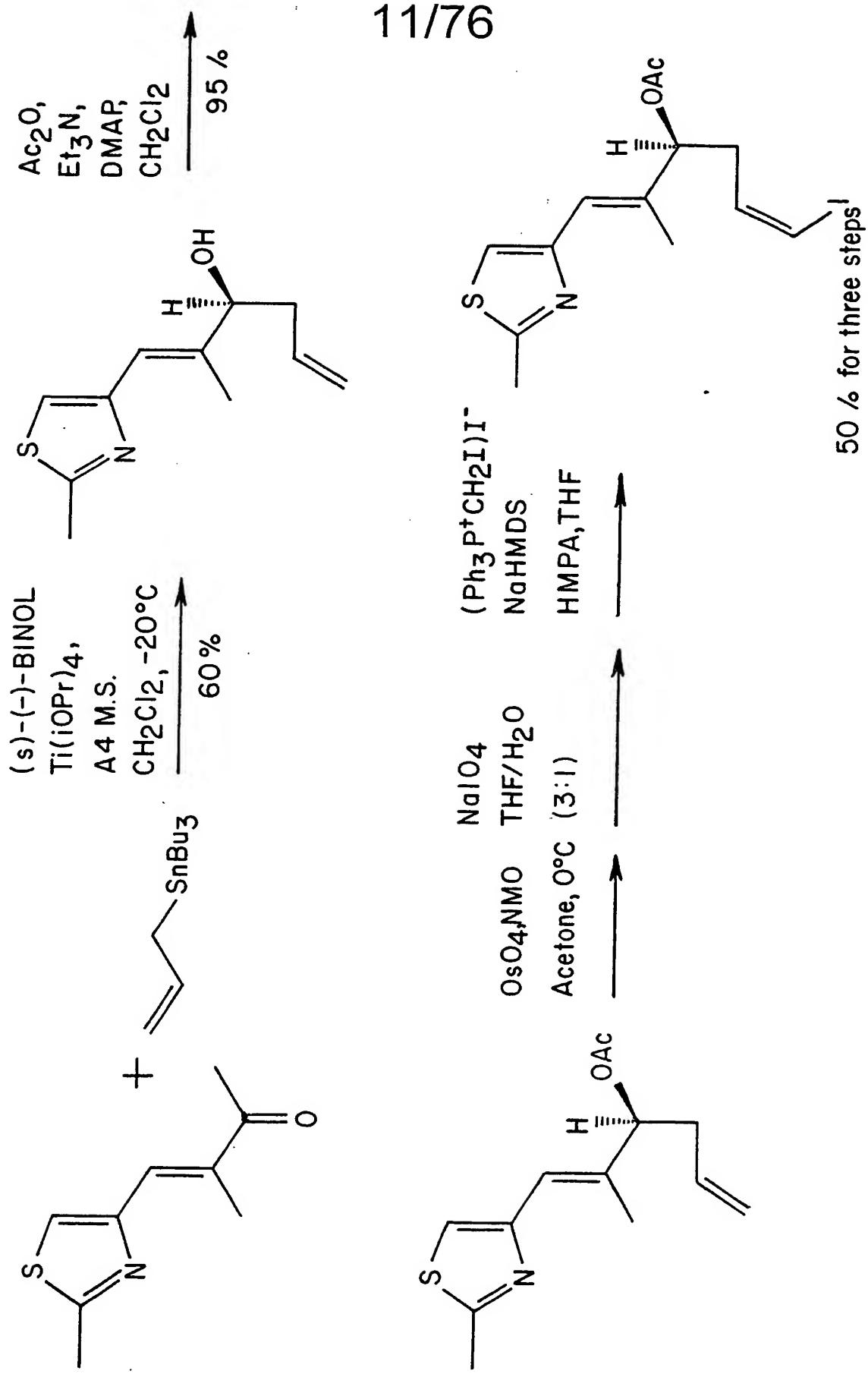


FIG. 6A

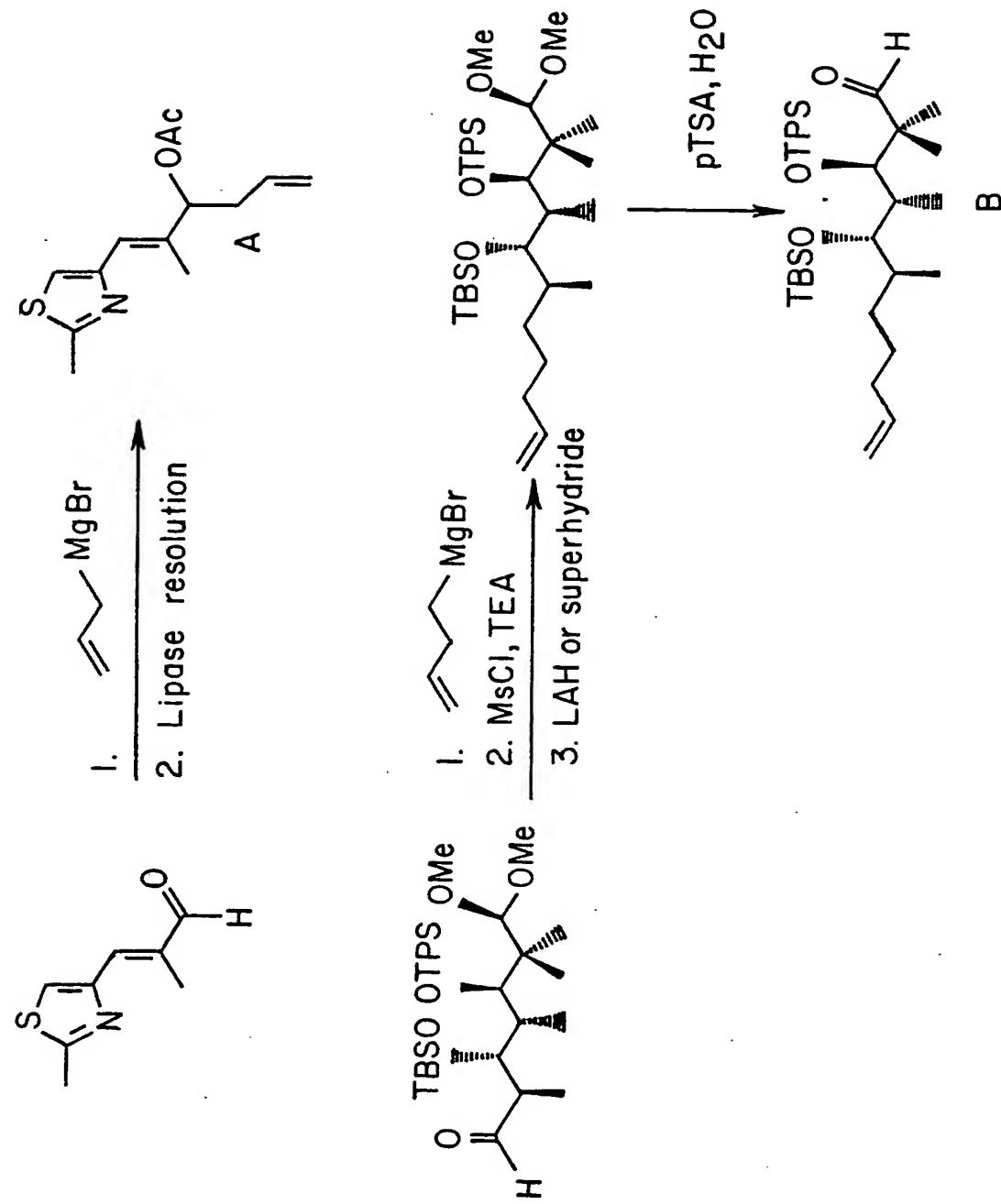


FIG. 6B

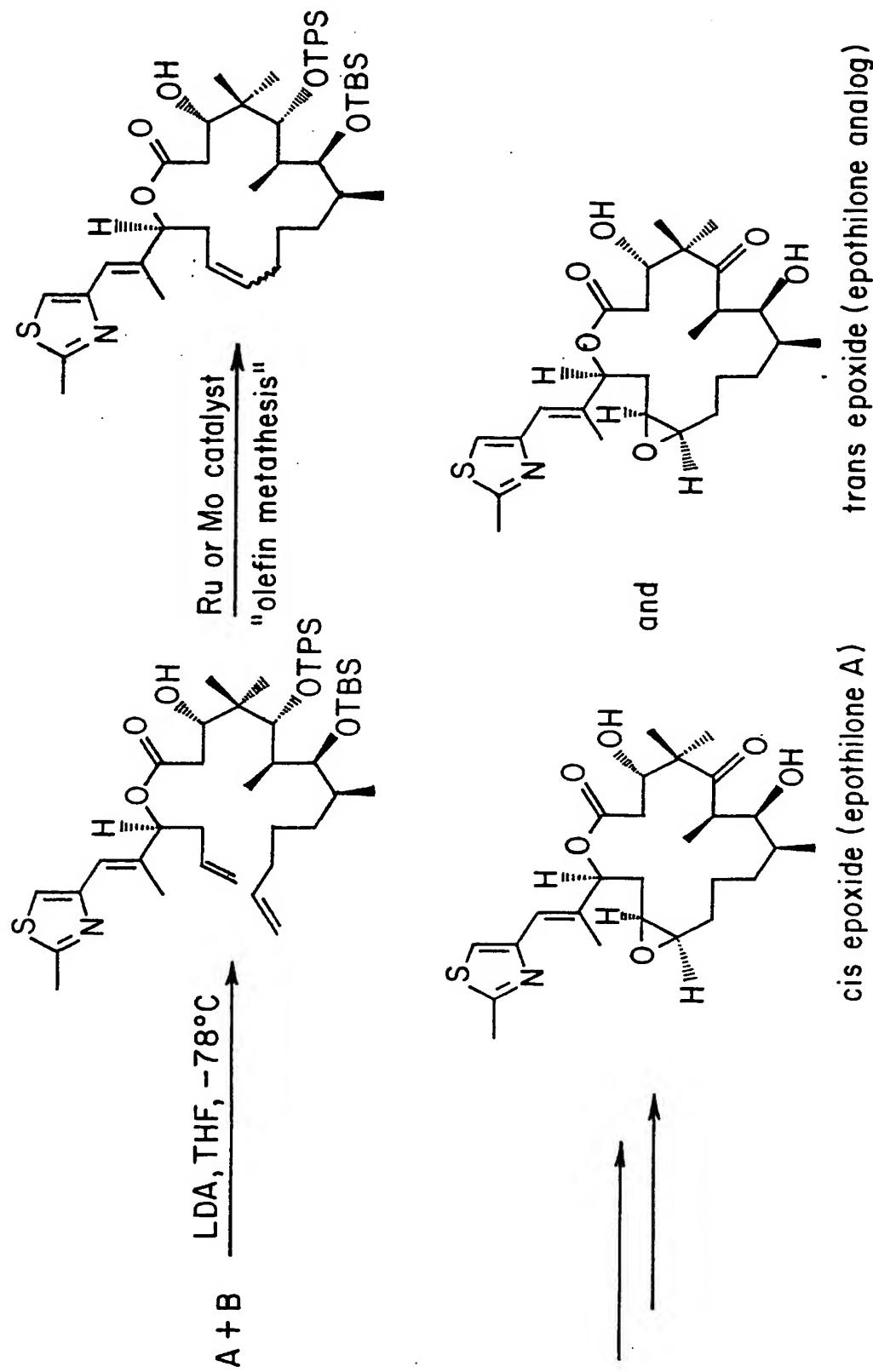
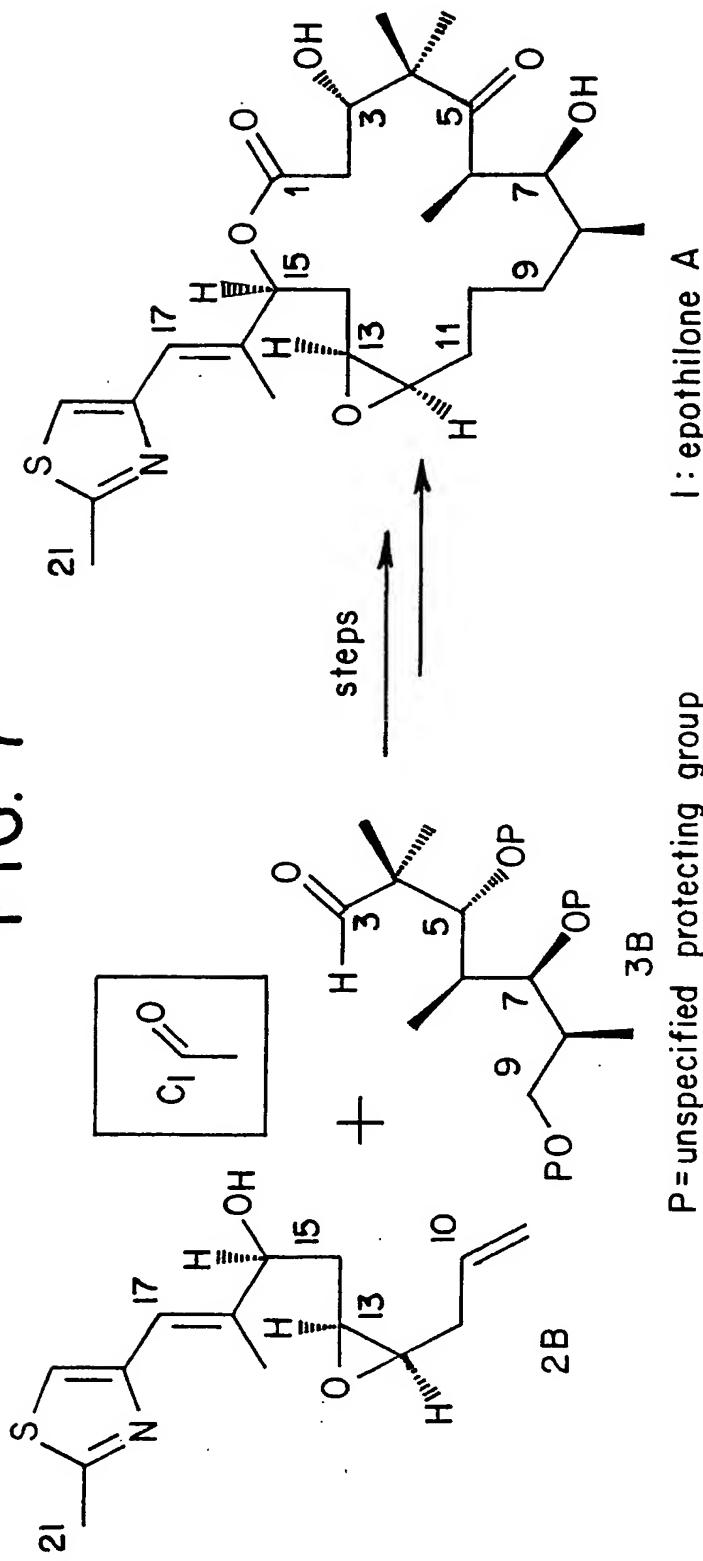
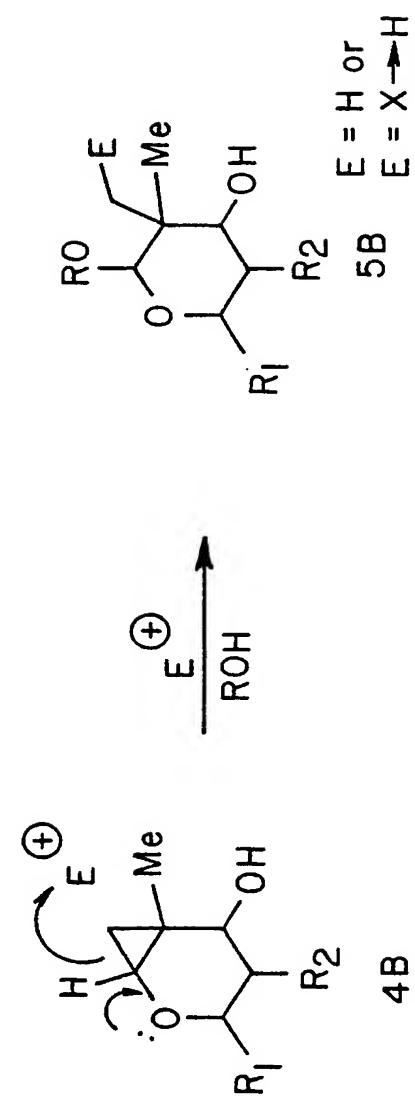
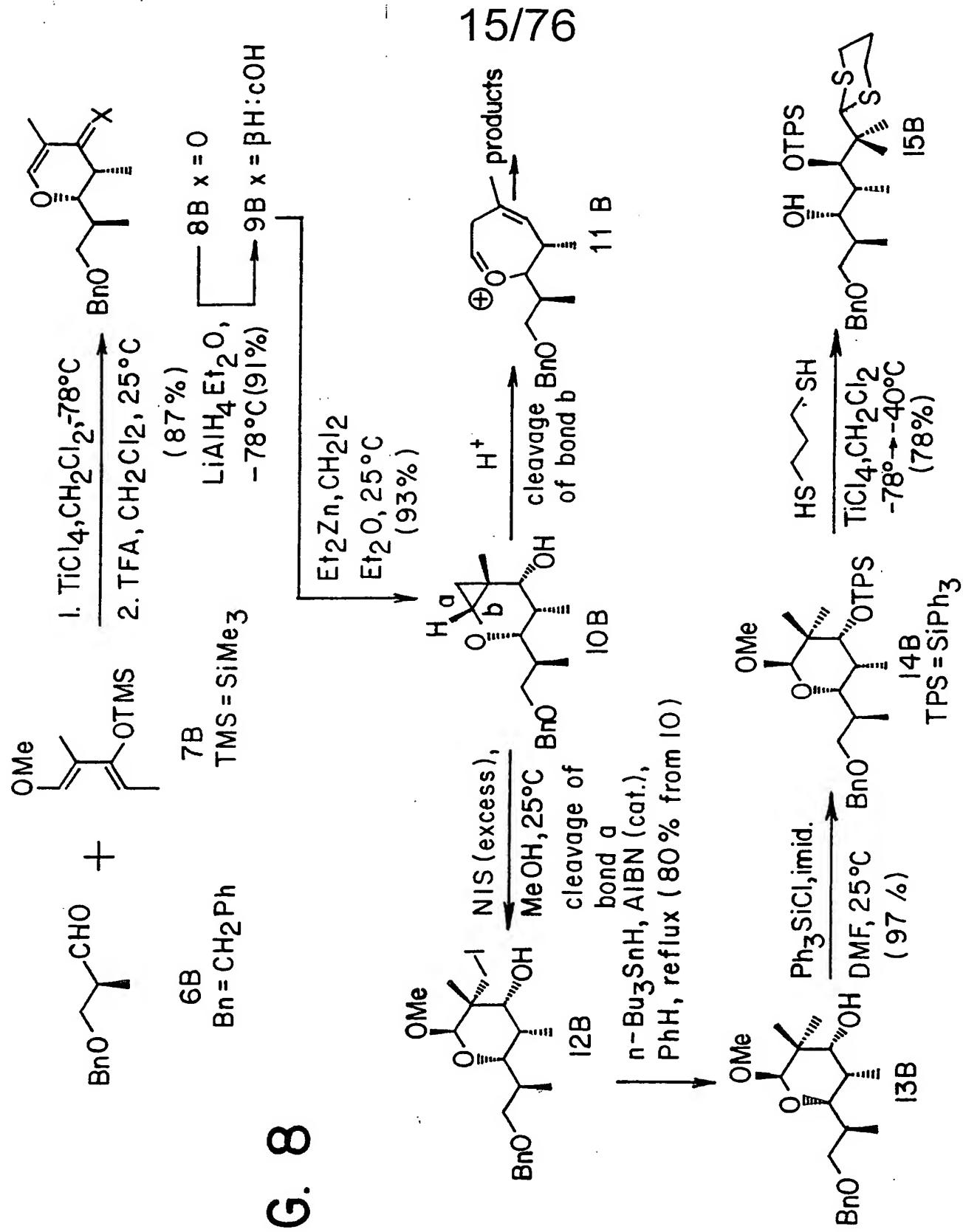


FIG. 7



Convergent strategy for a total synthesis of epothilone A (1).





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FIG. 9

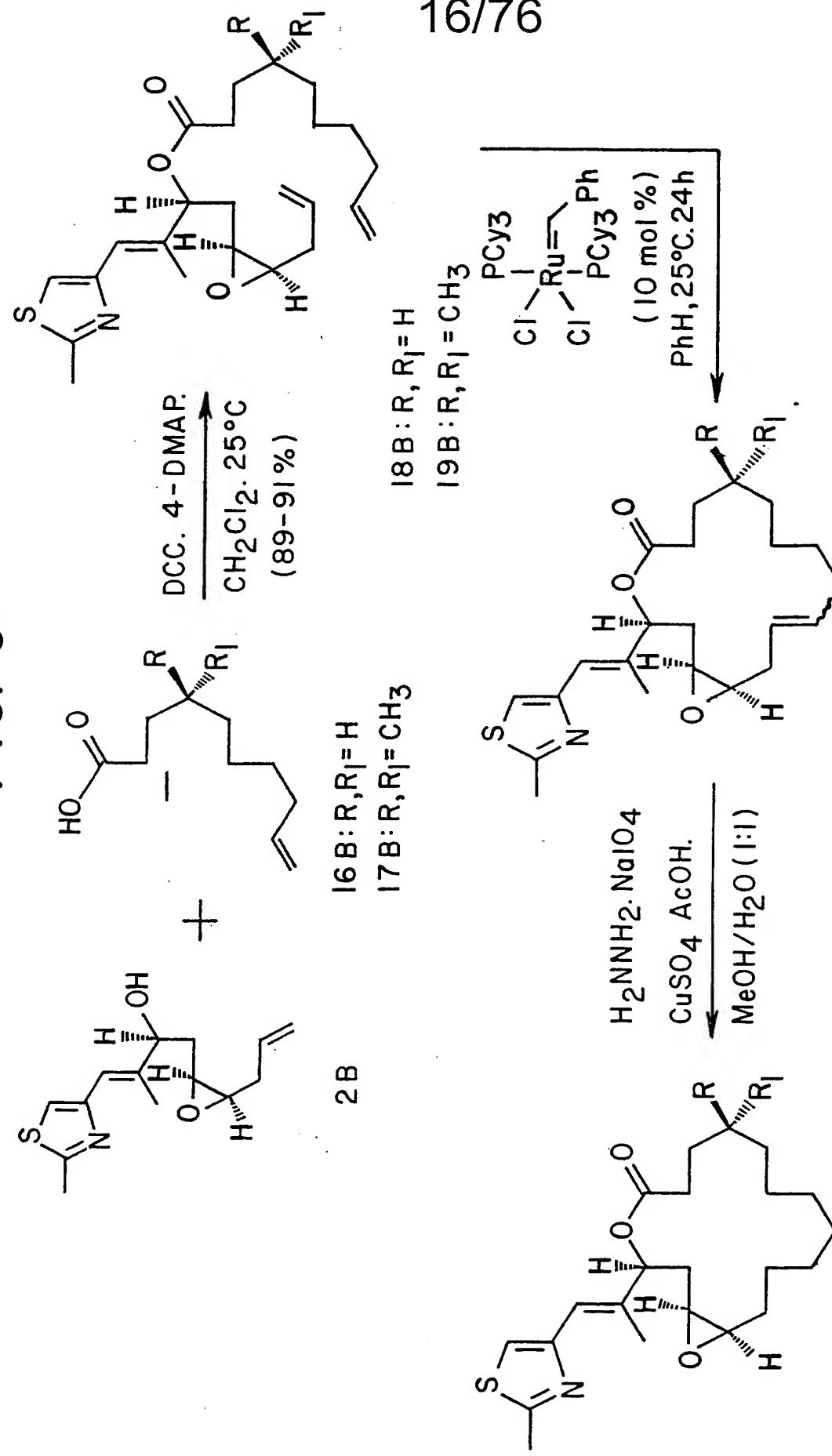
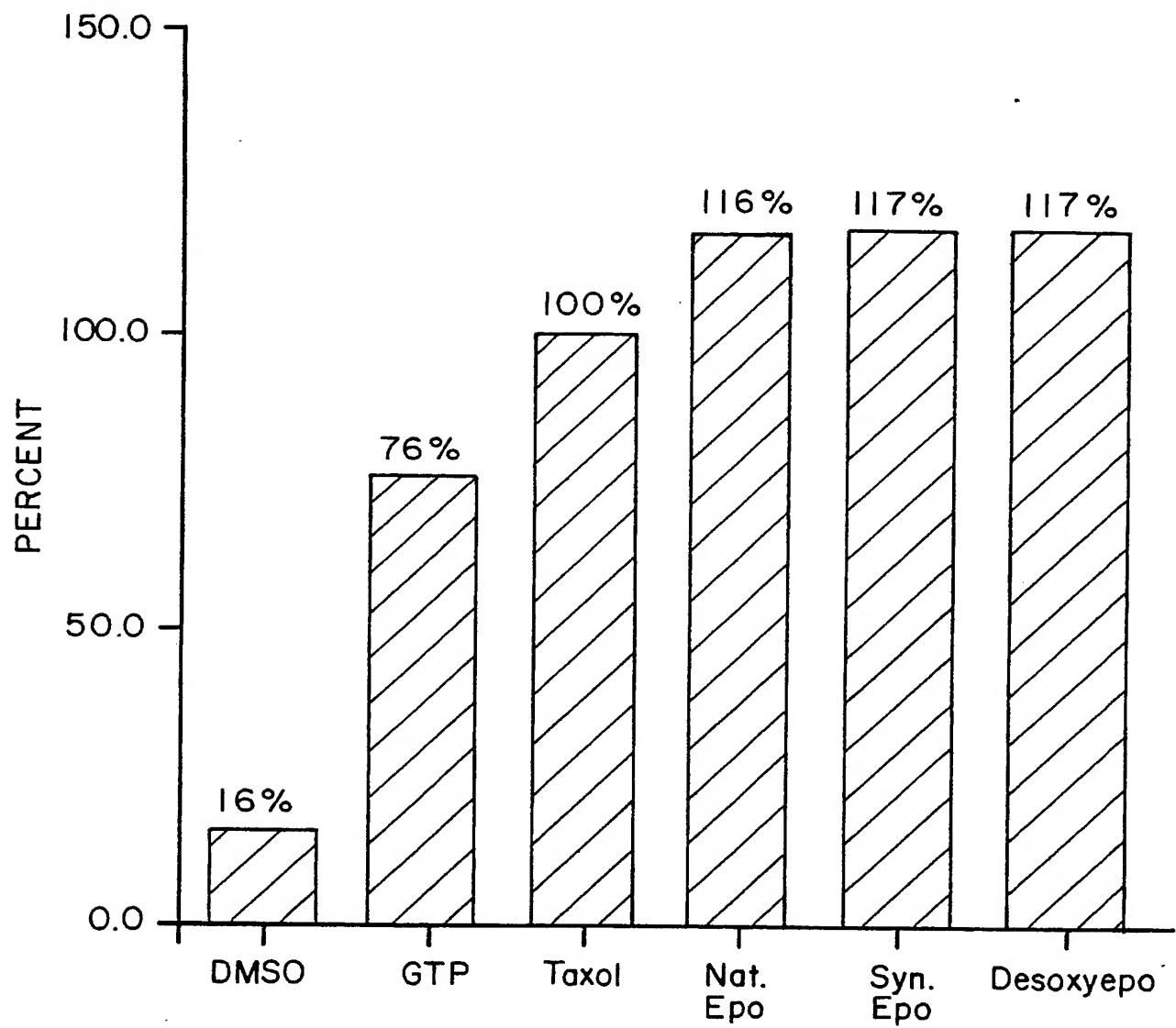


FIG. 10



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FIG. 11

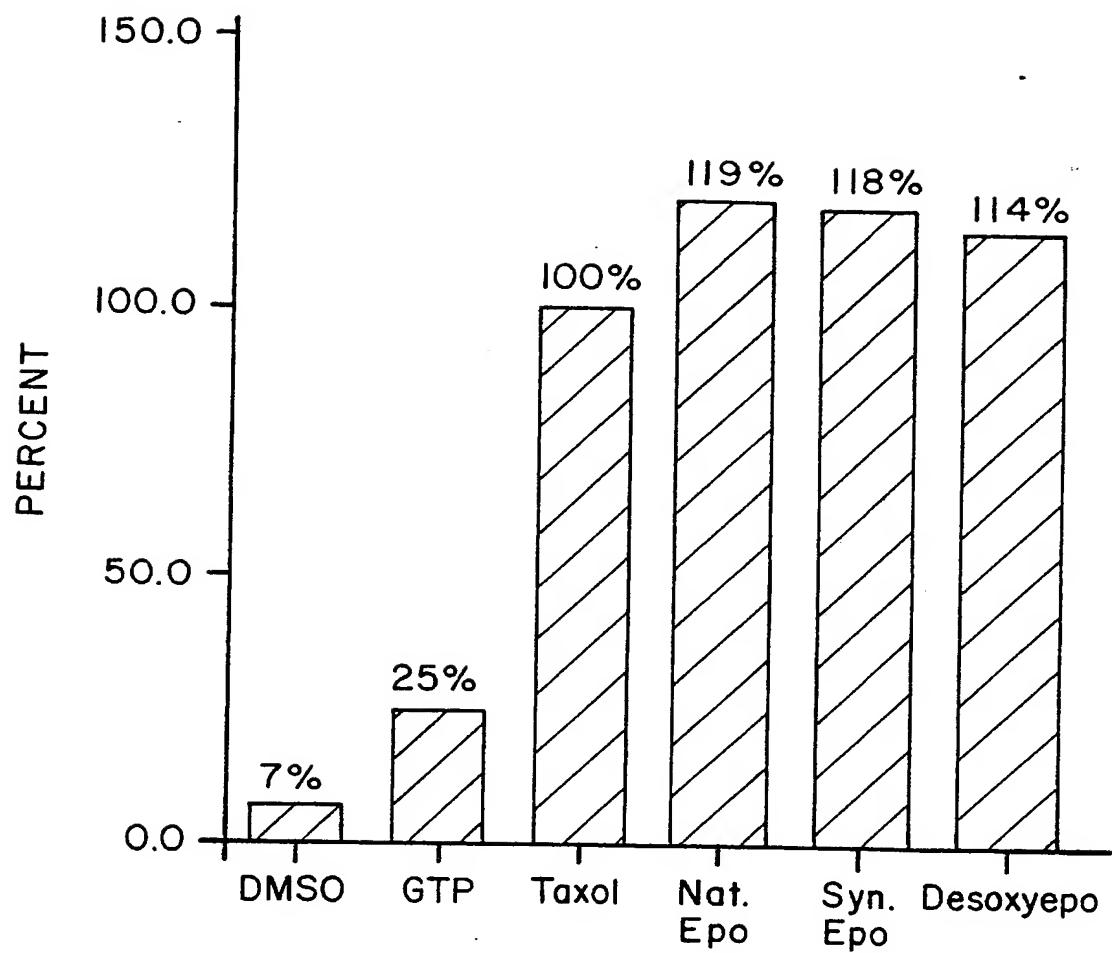


FIG. 13

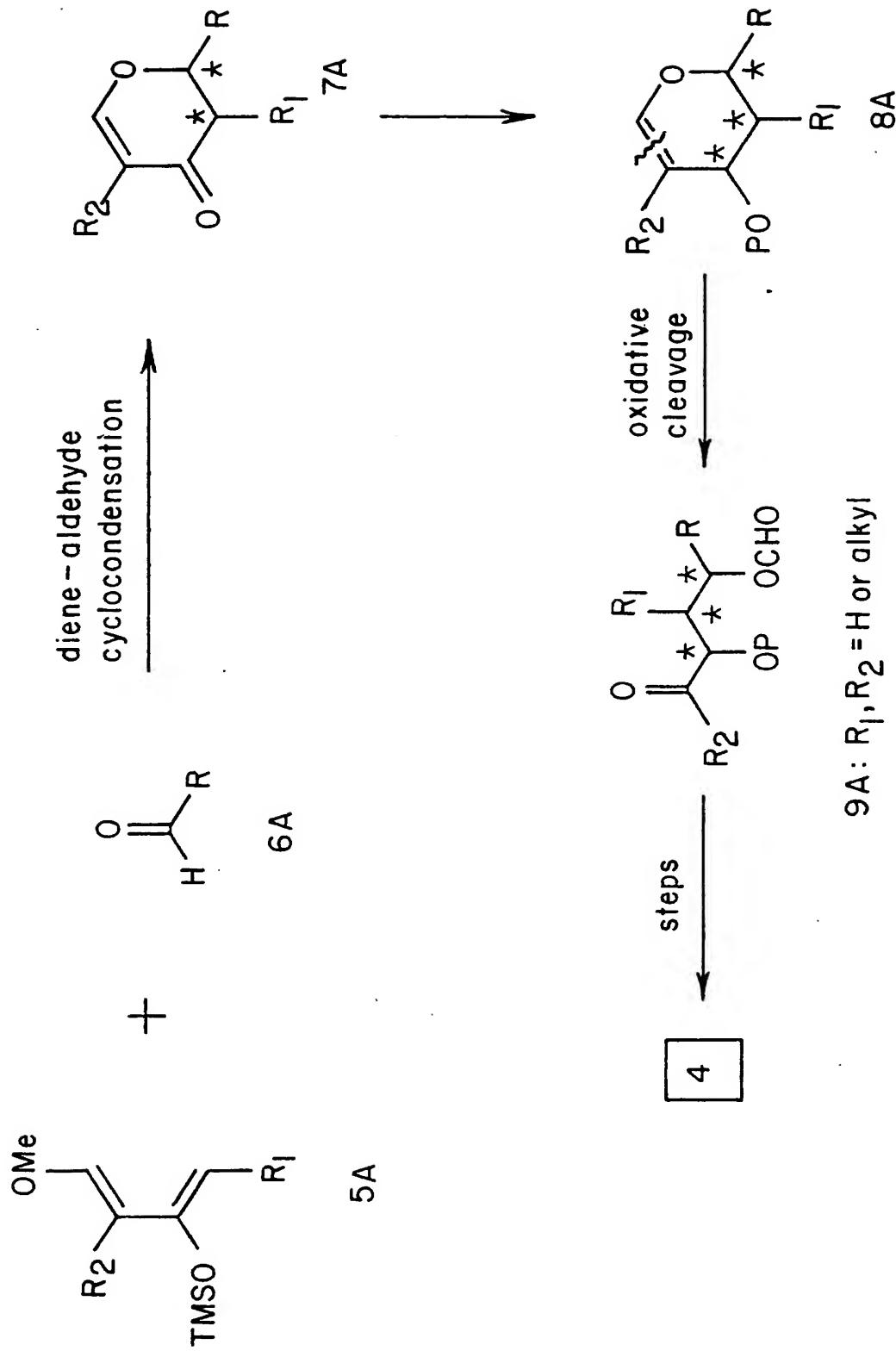


FIG. 14 A

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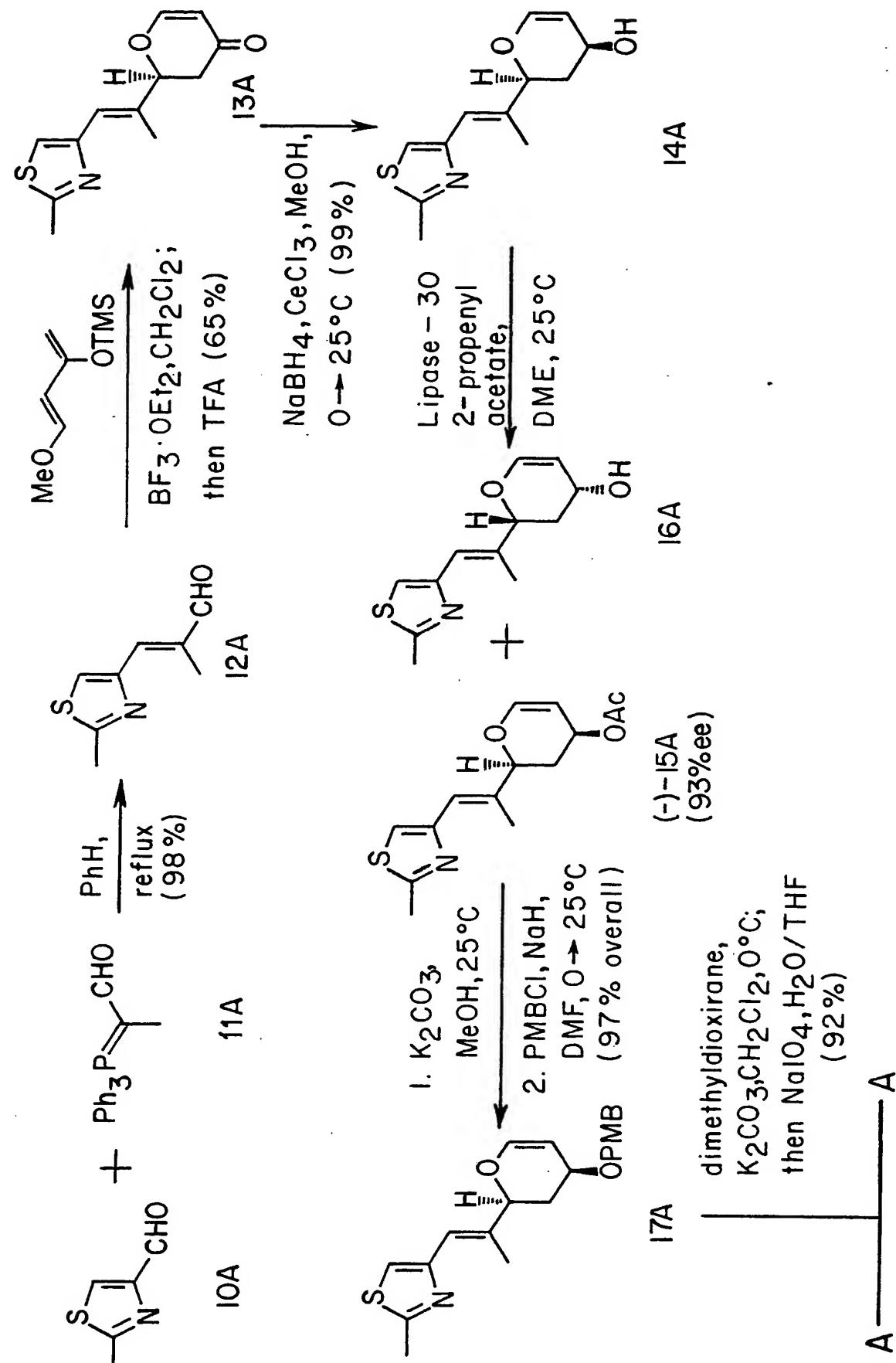
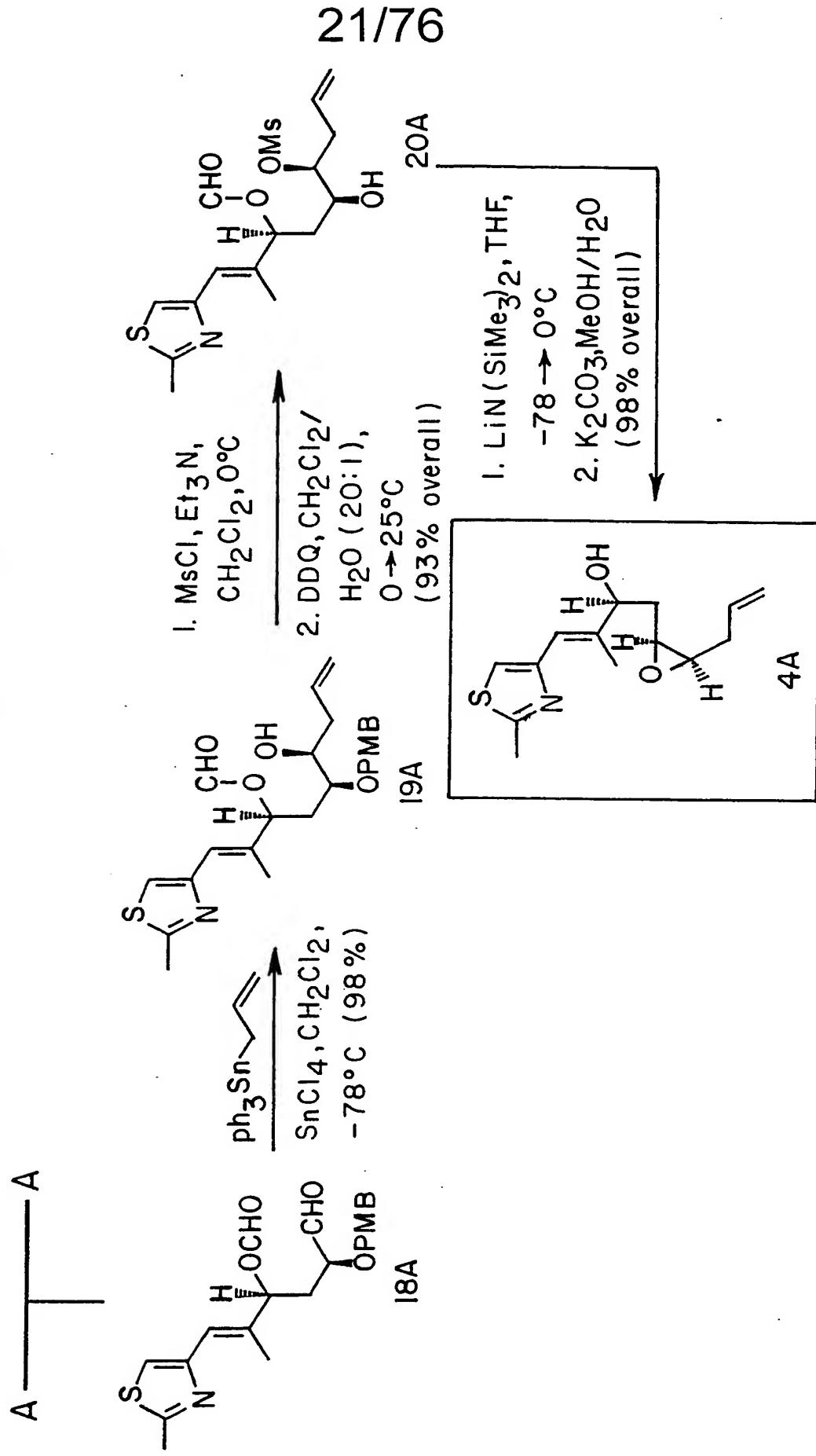


FIG. 14 B



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FIG.

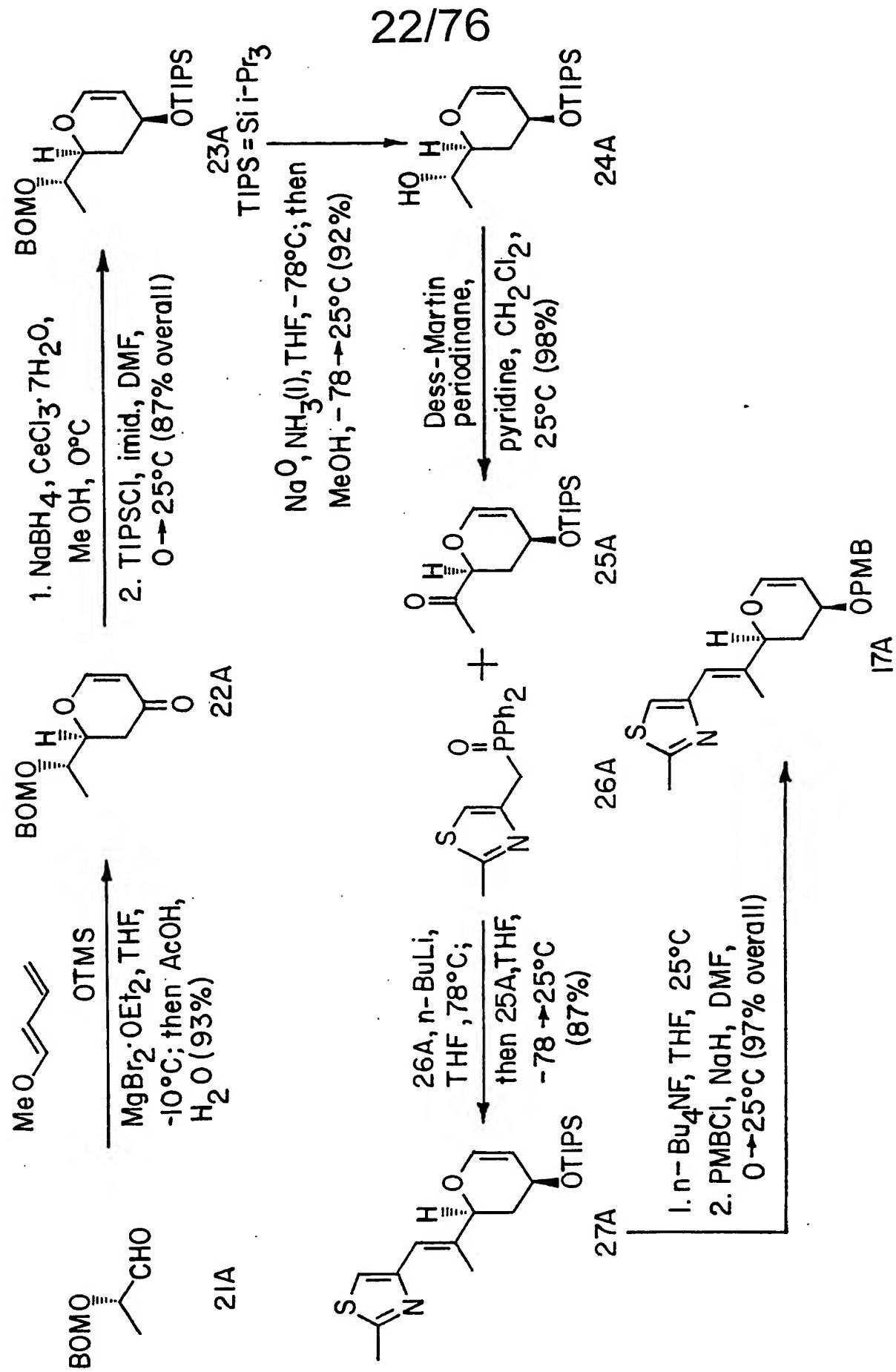


FIG. 16

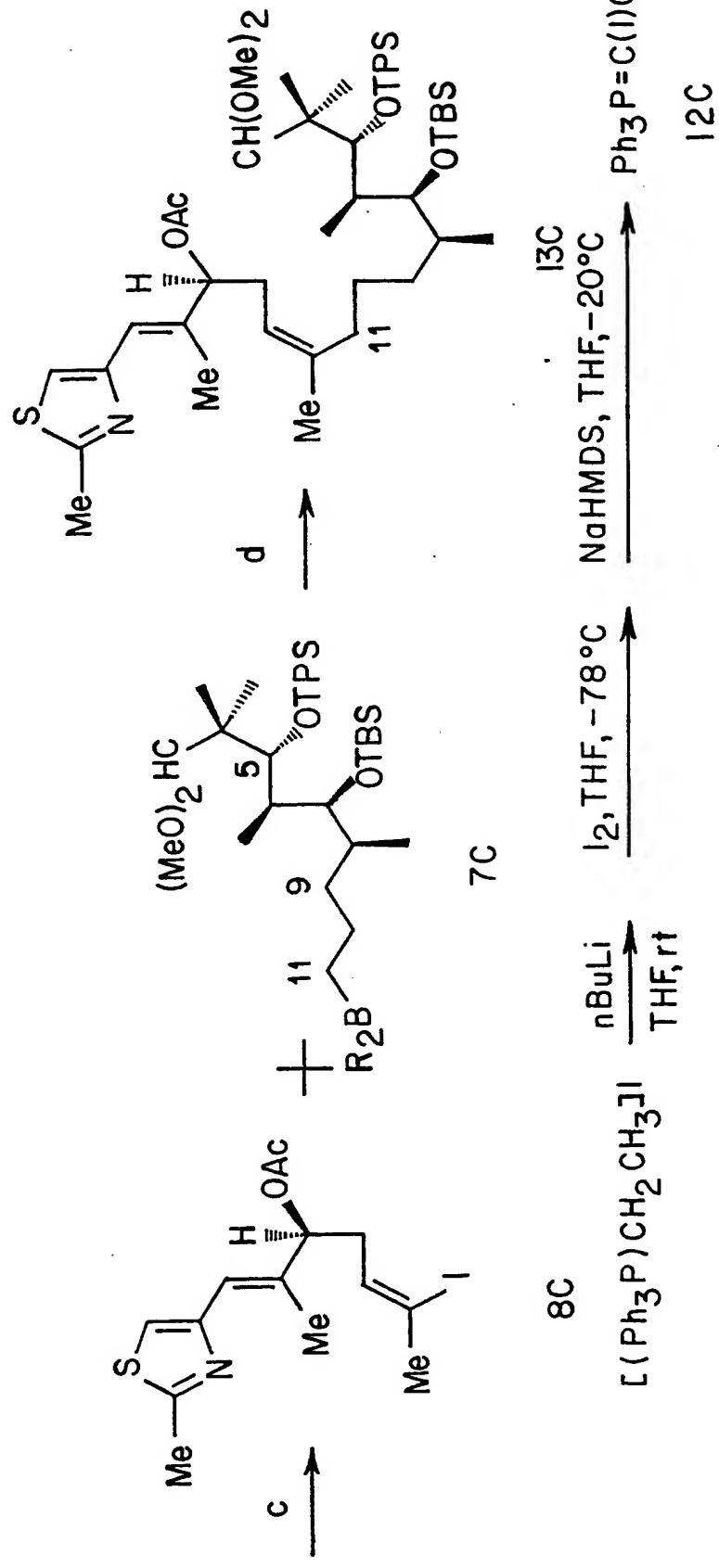
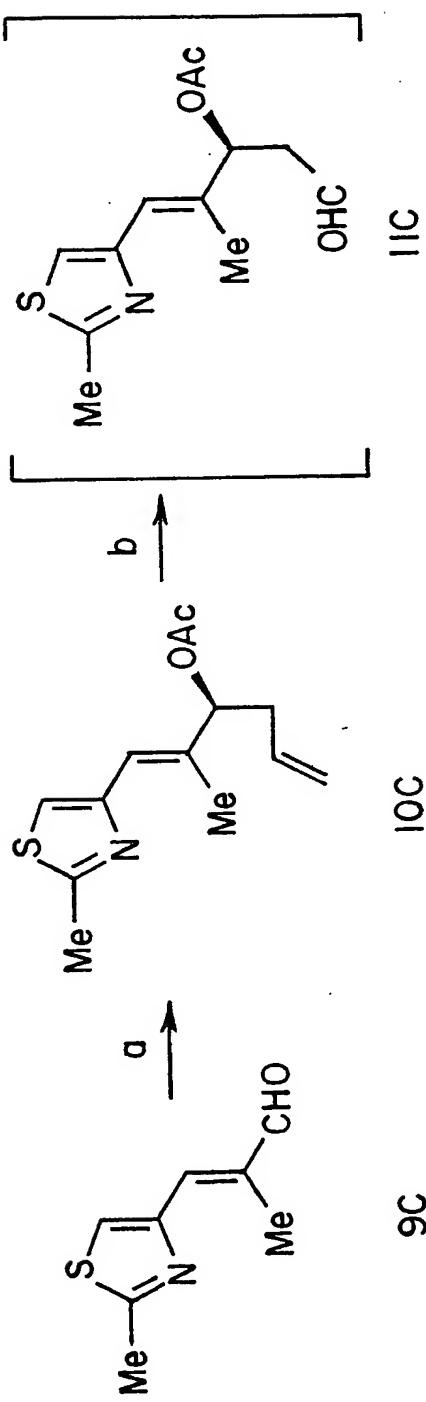
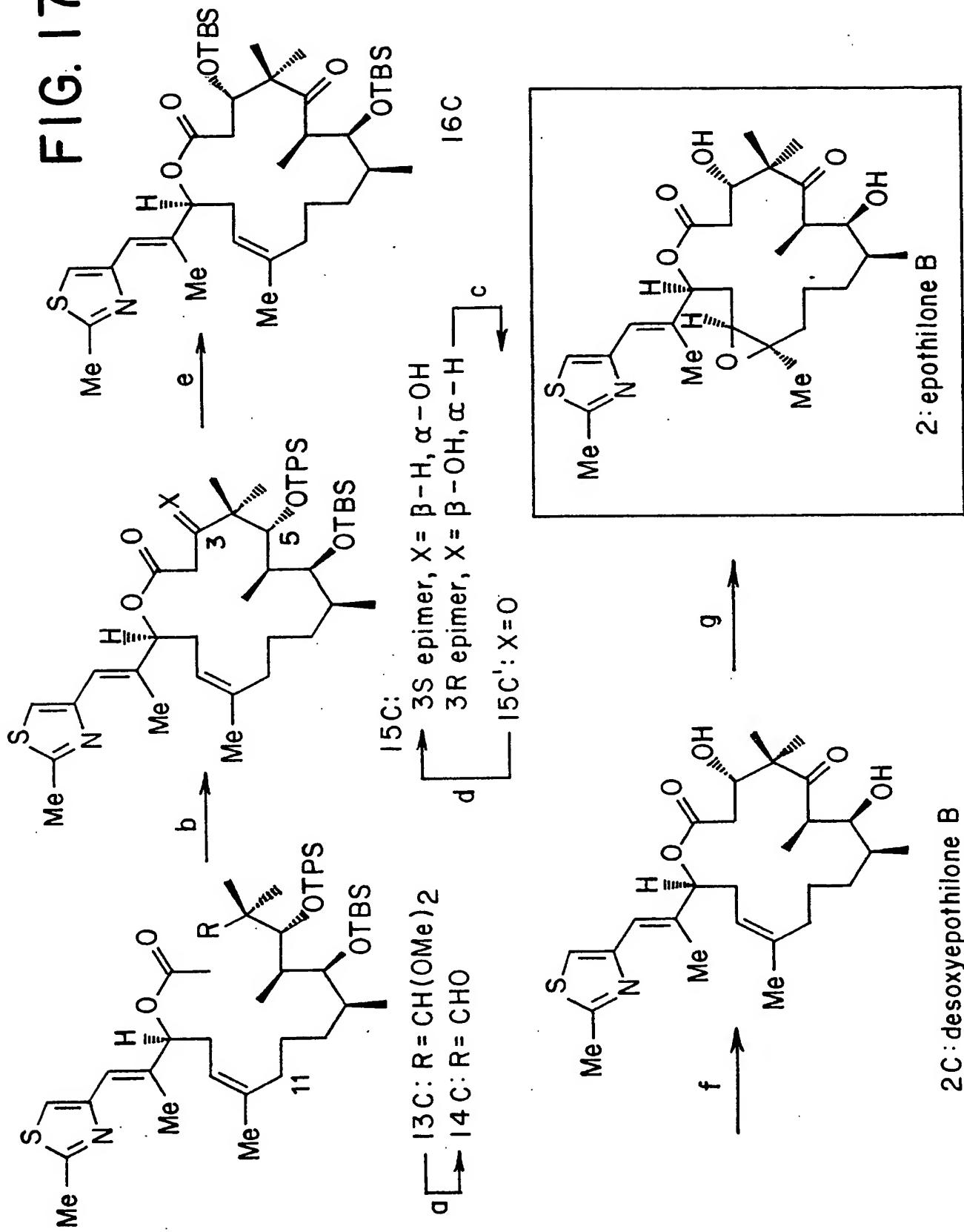


FIG. 17



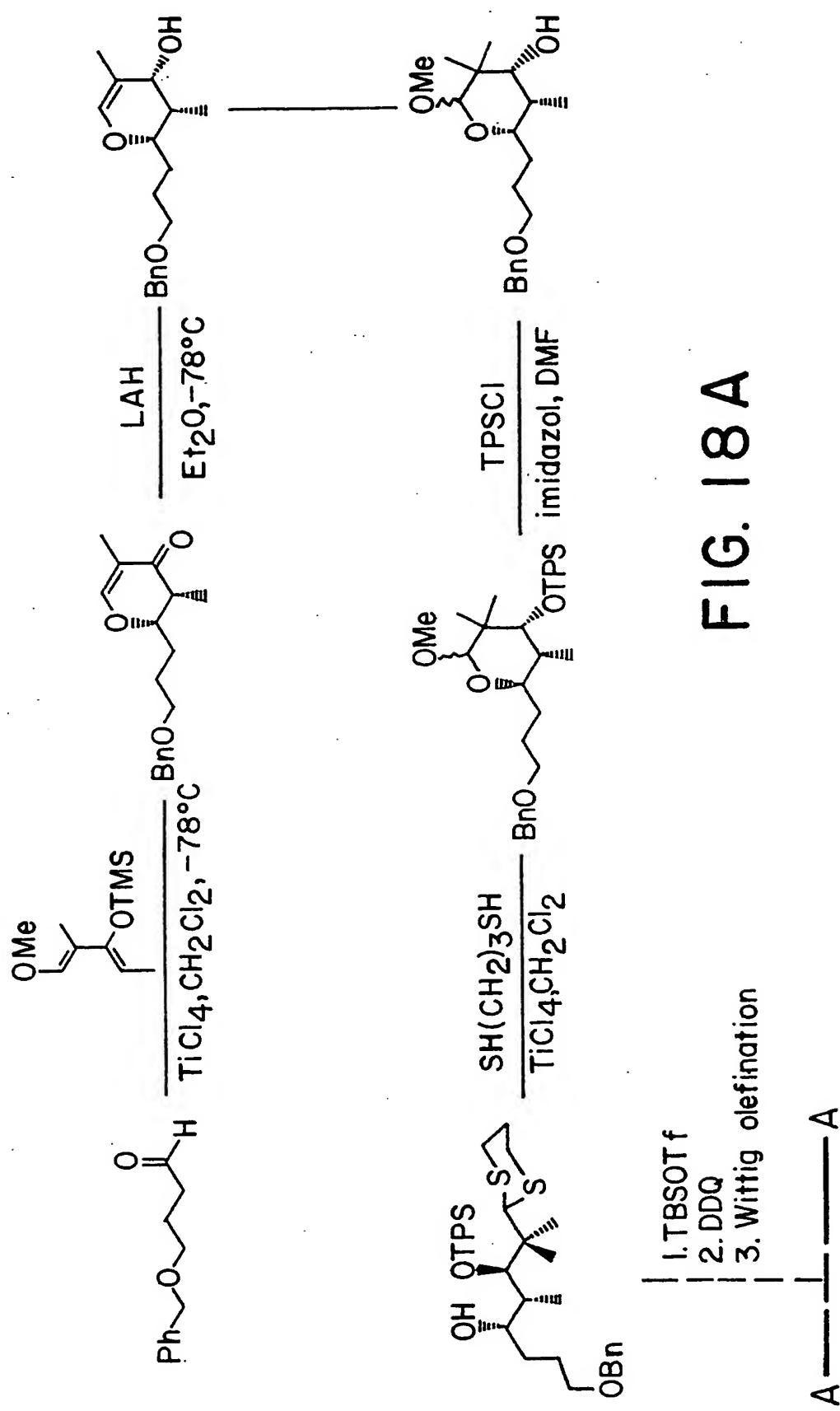


FIG. 18 A

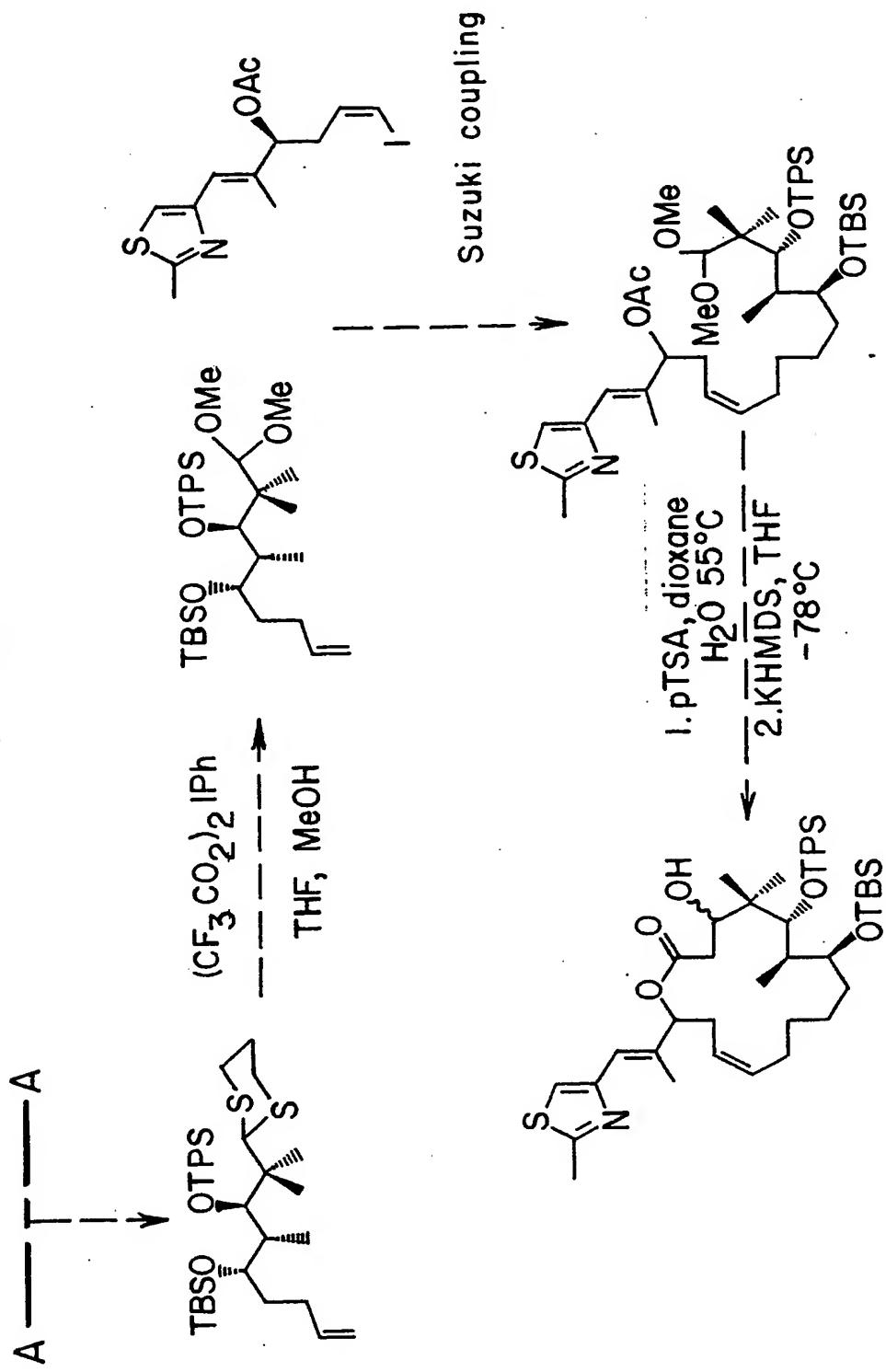


FIG. 19A

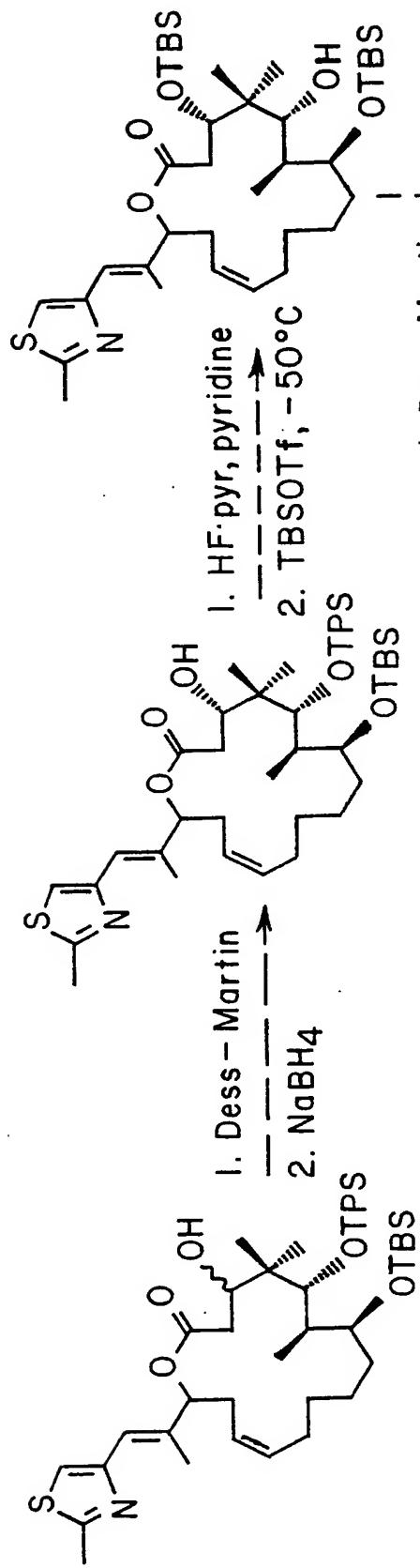


FIG. 19B

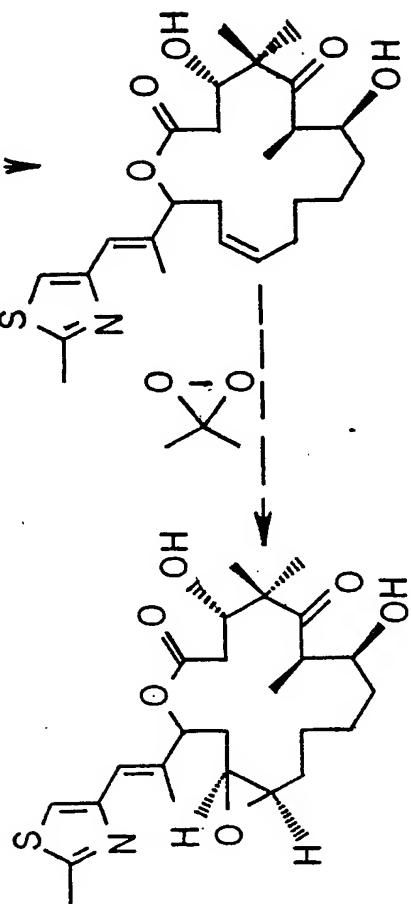
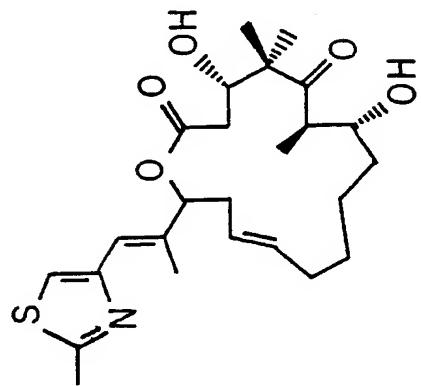


FIG. 19 C

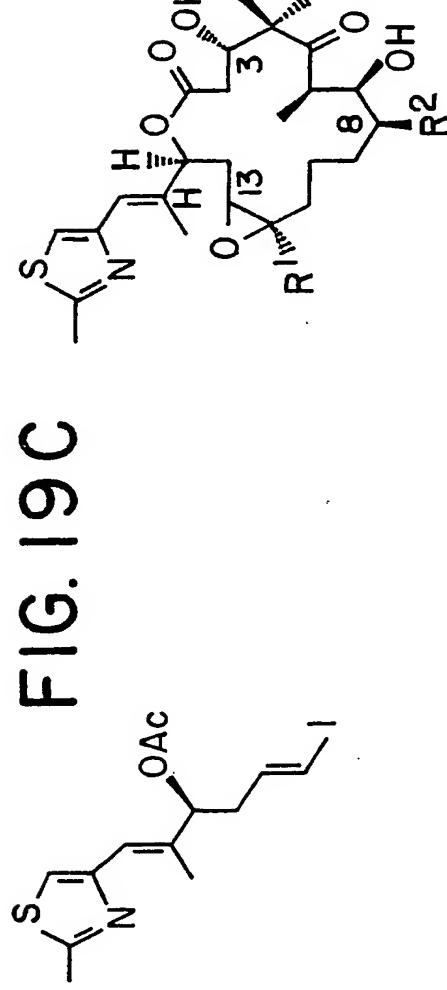
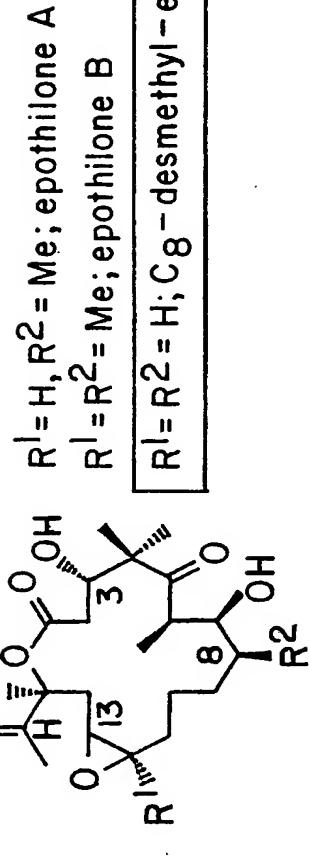


FIG. 20 A



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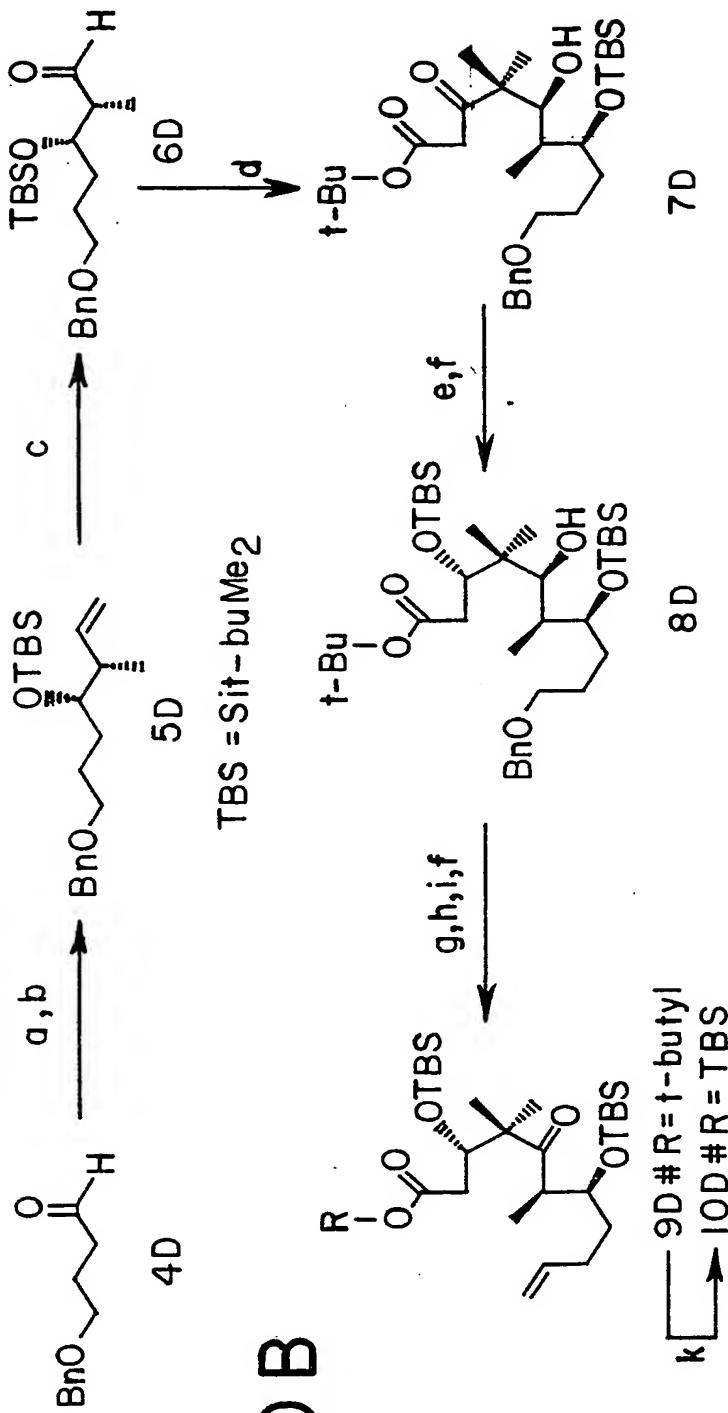


FIG. 20 B

FIG. 21

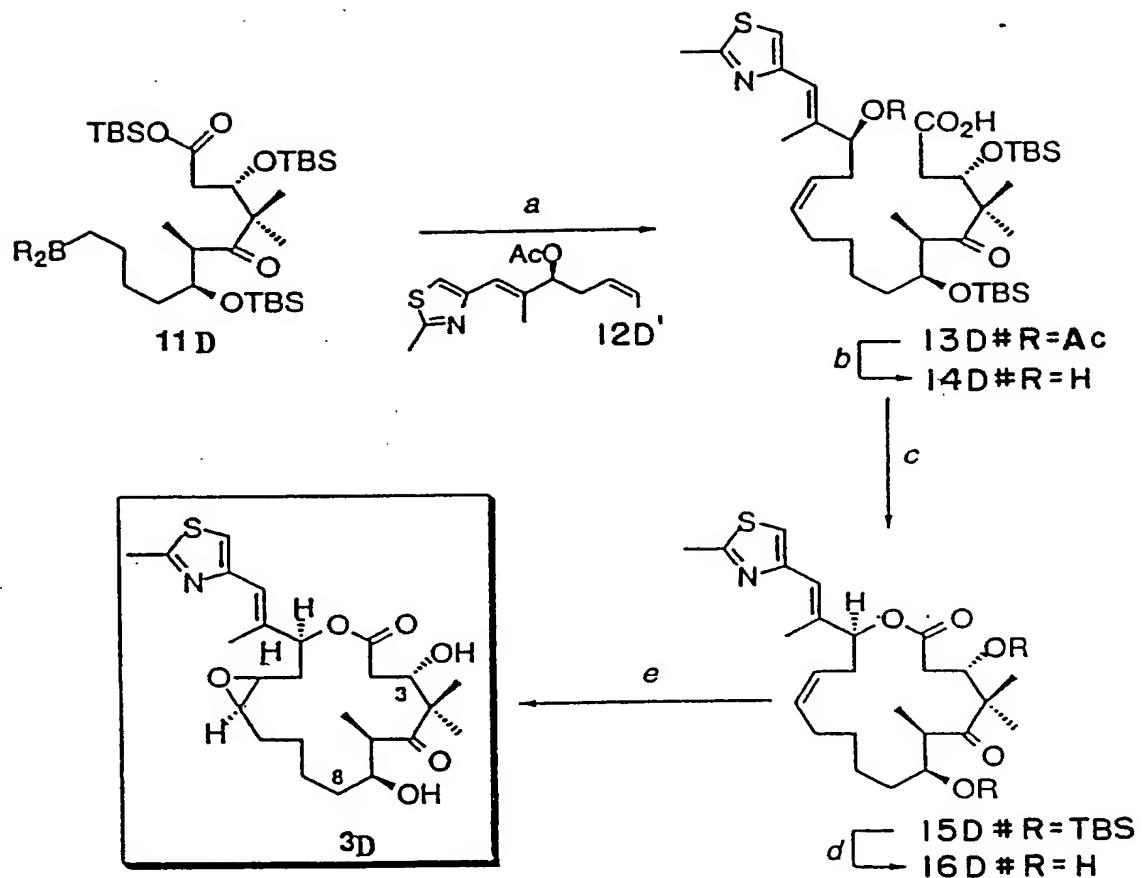


FIG. 22 A

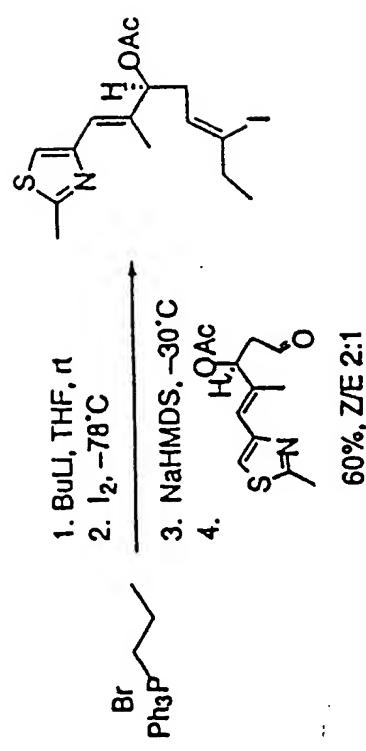


FIG. 22 B

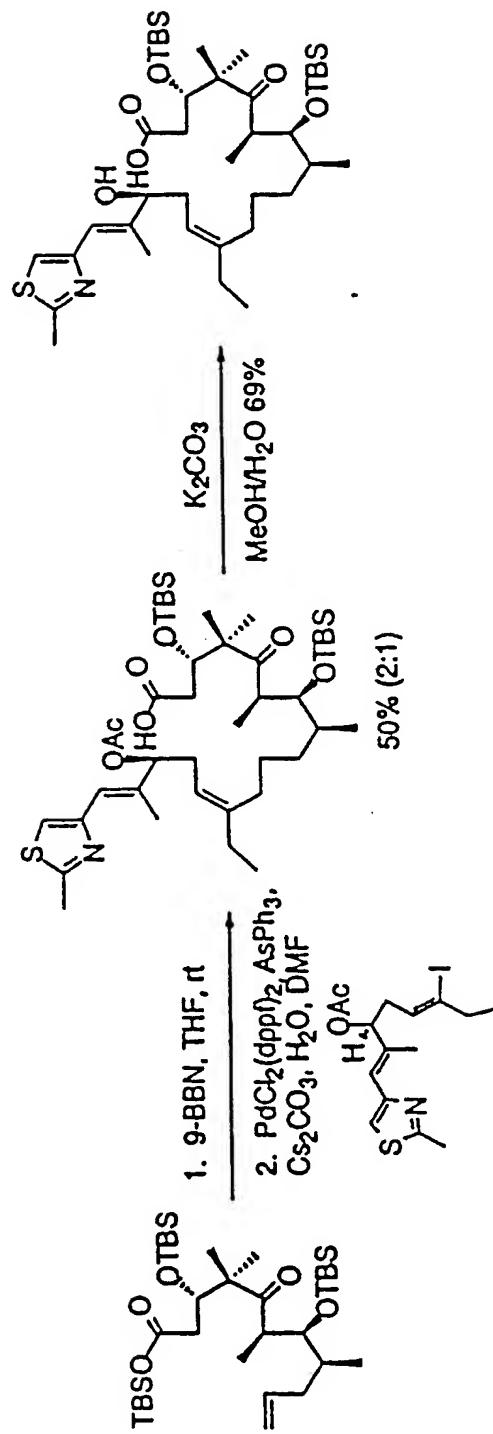


FIG. 22 C

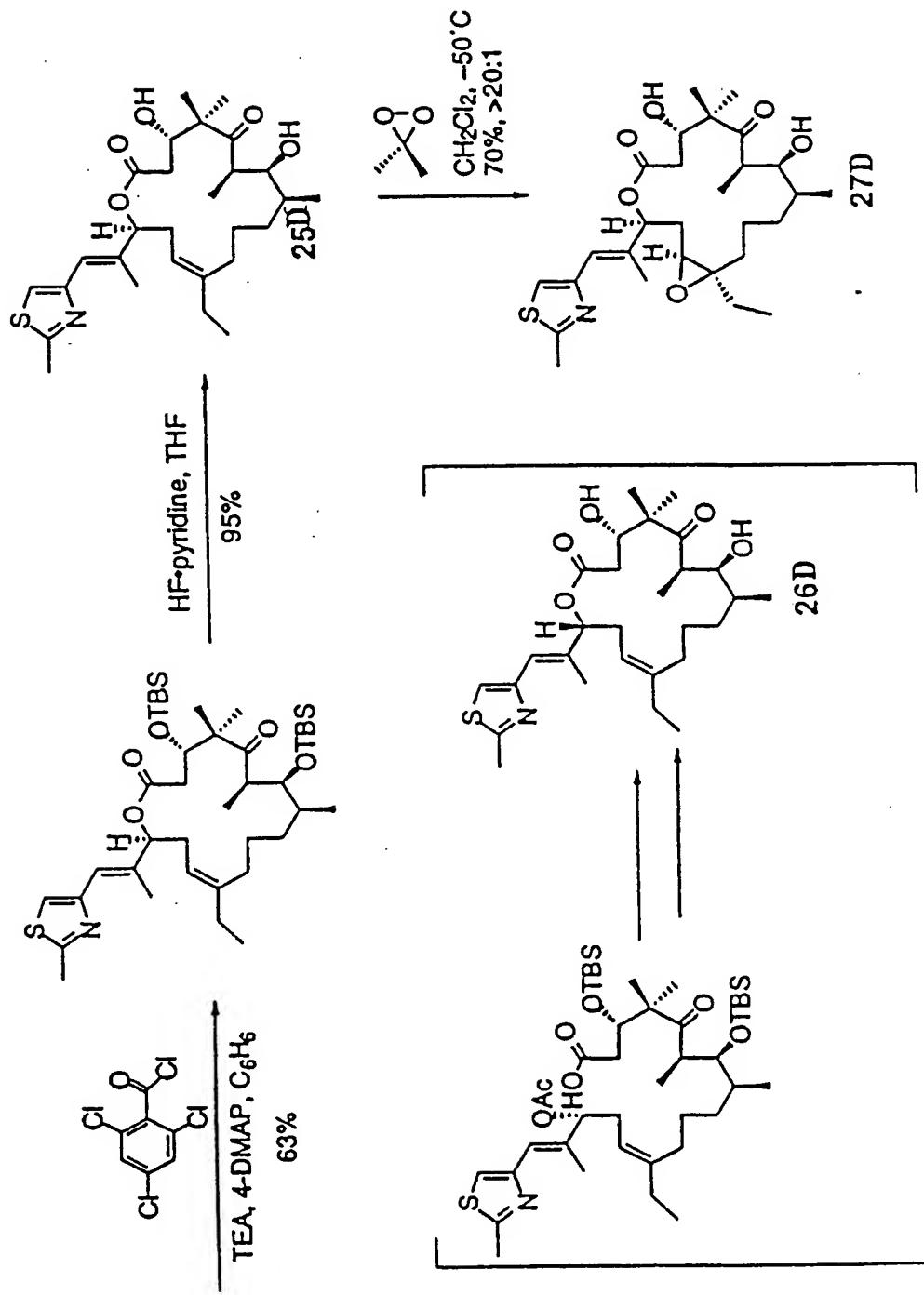


FIG. 23A

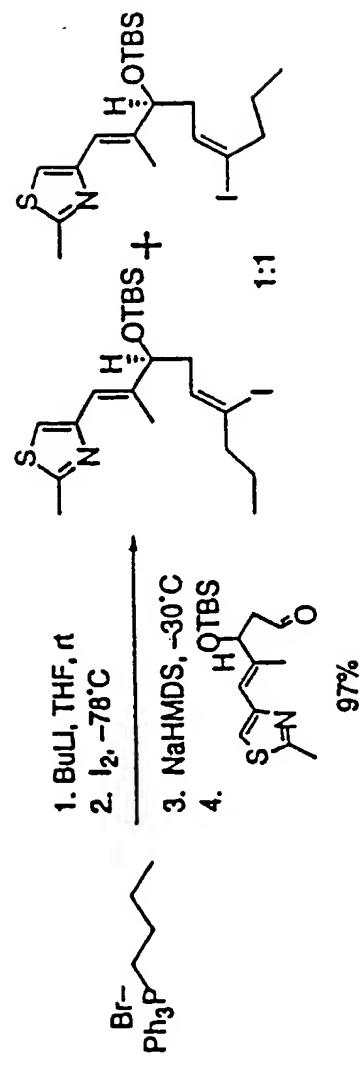


FIG. 23B

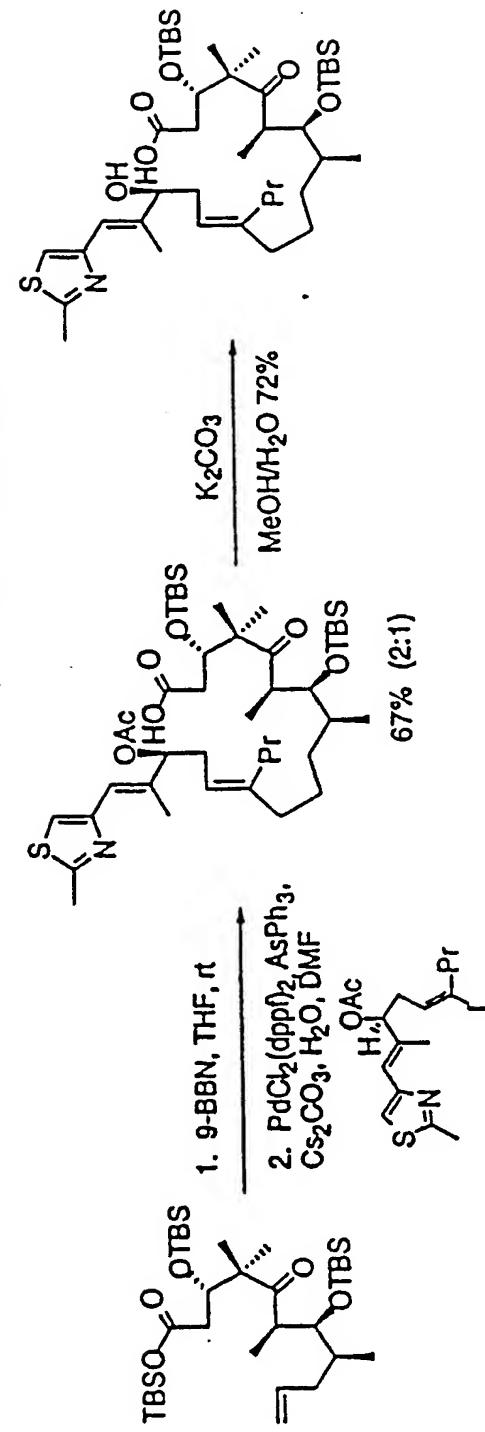


FIG. 23C

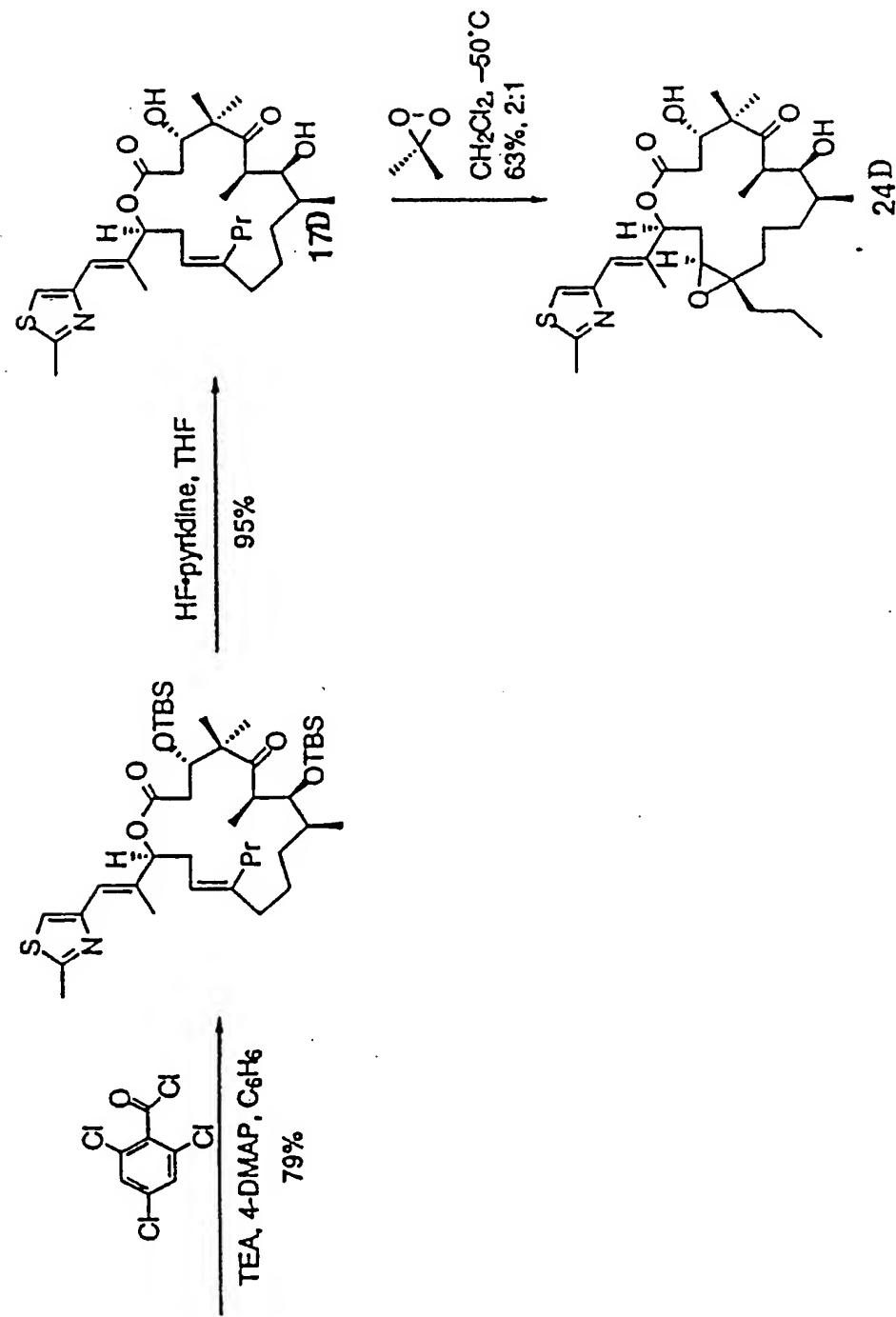


FIG. 24 A

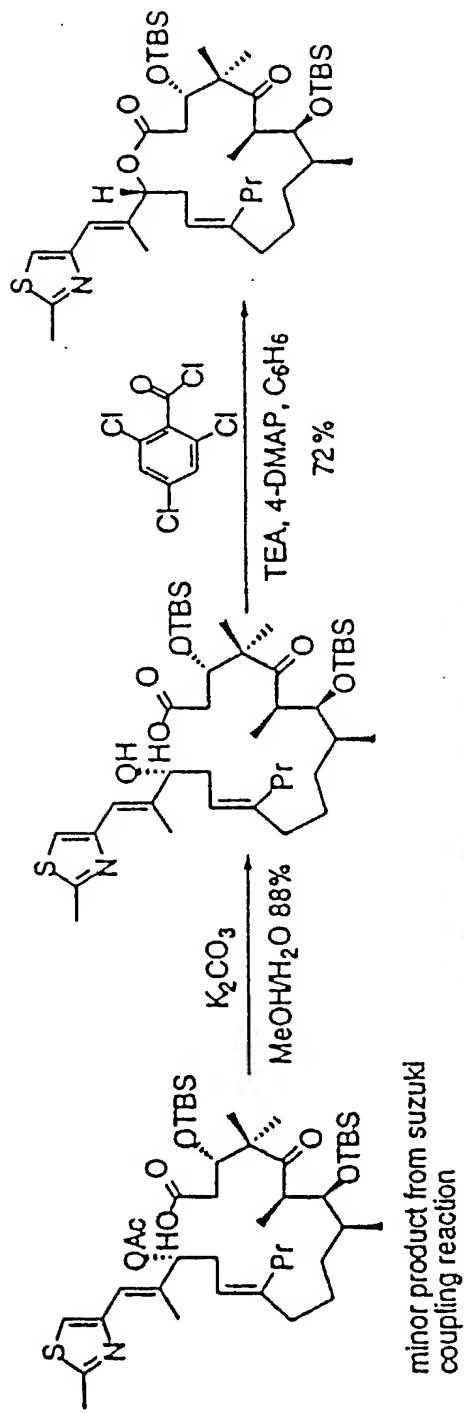


FIG. 24 B

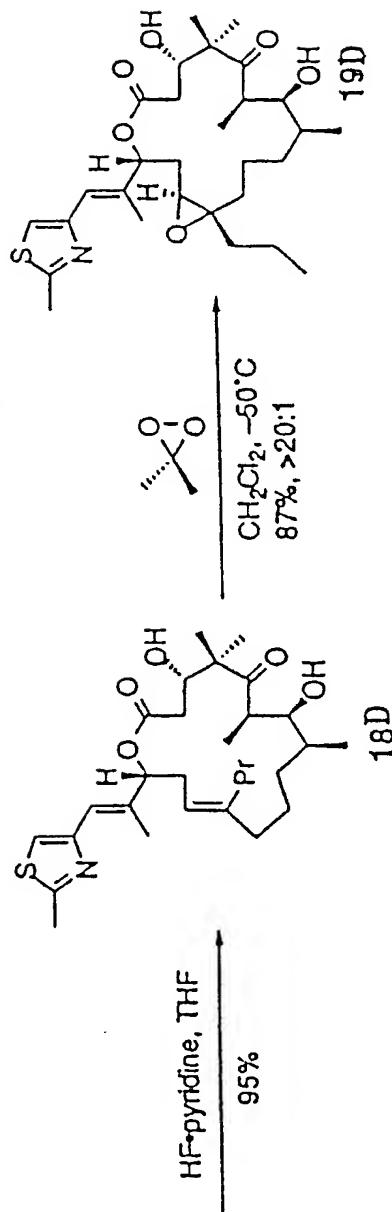


FIG. 25 A

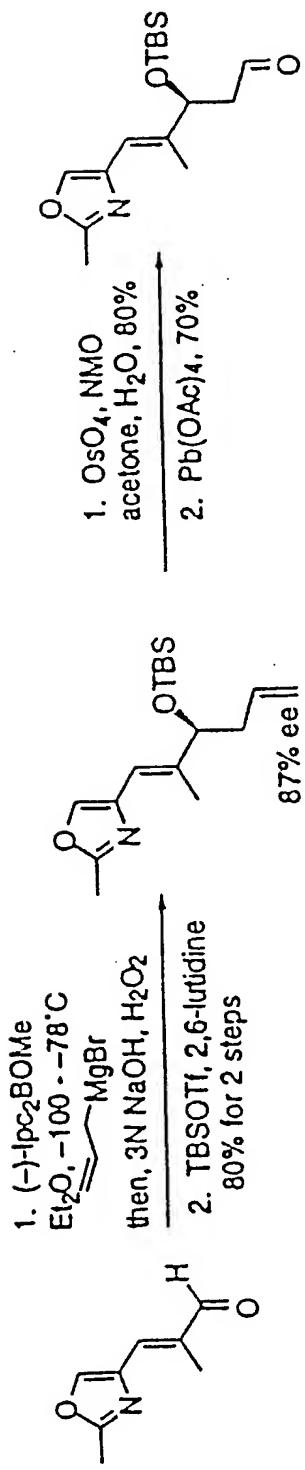


FIG. 25 B

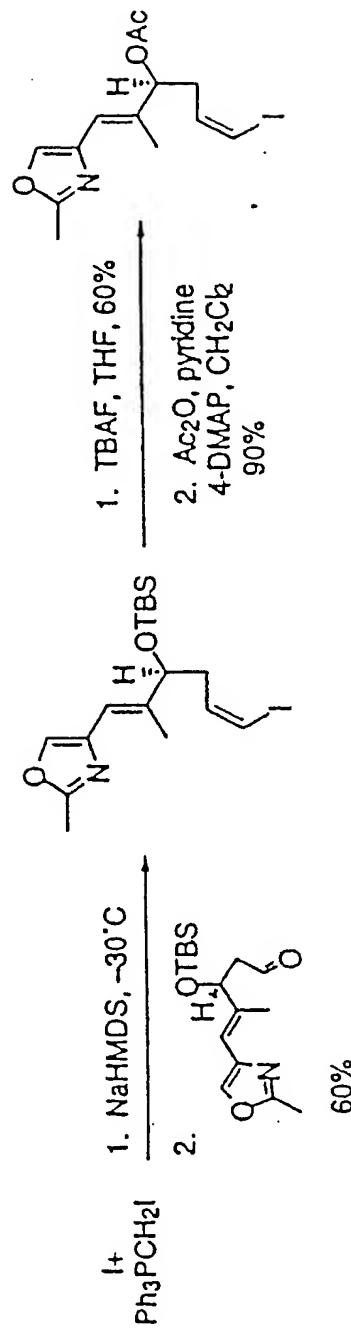


FIG. 25 C

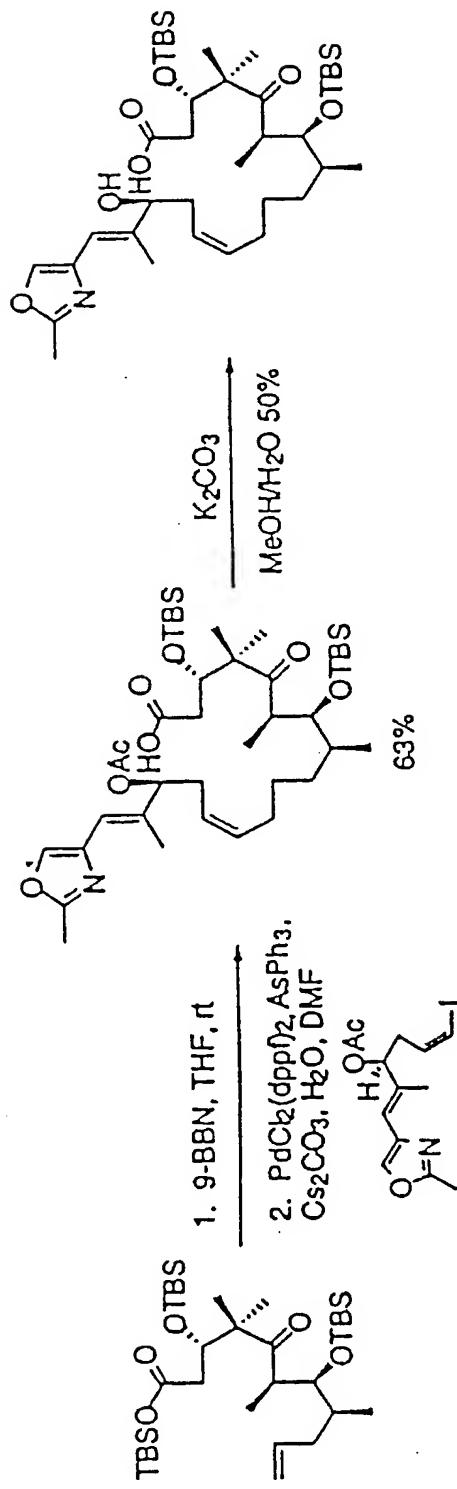


FIG. 25 D

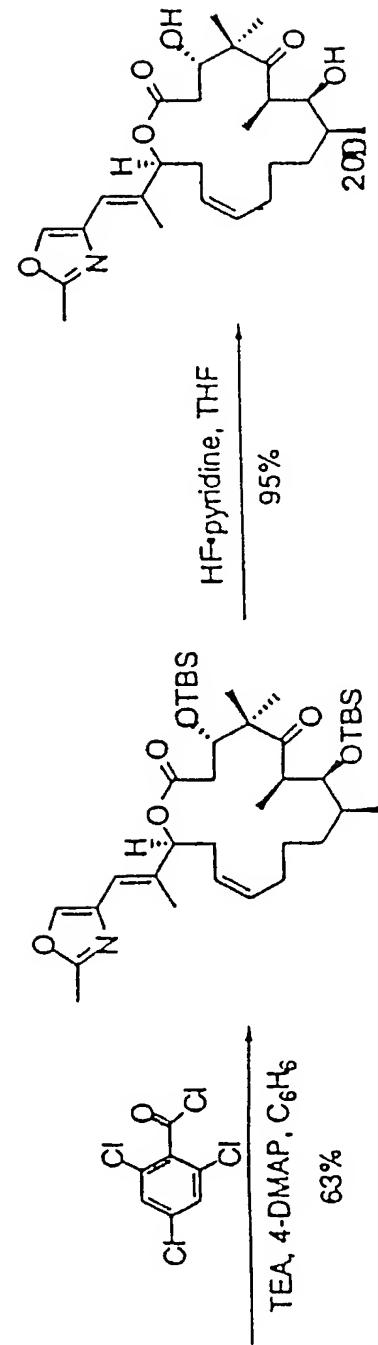


FIG. 26 A

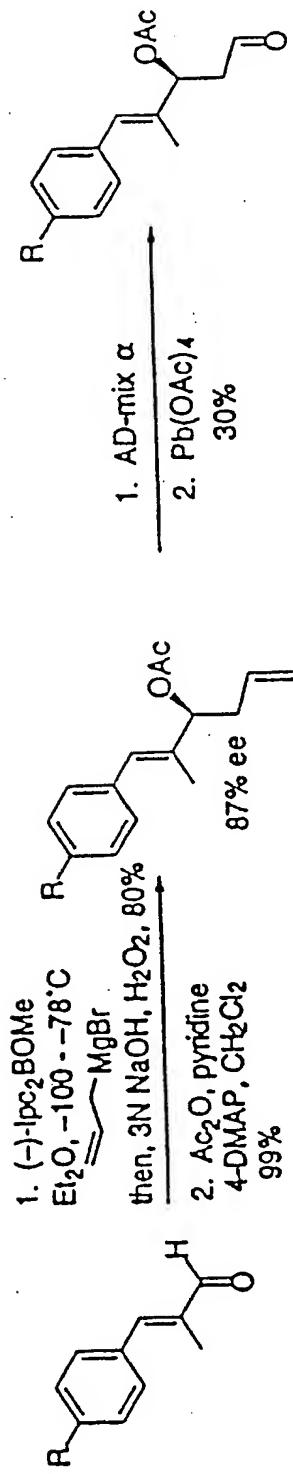
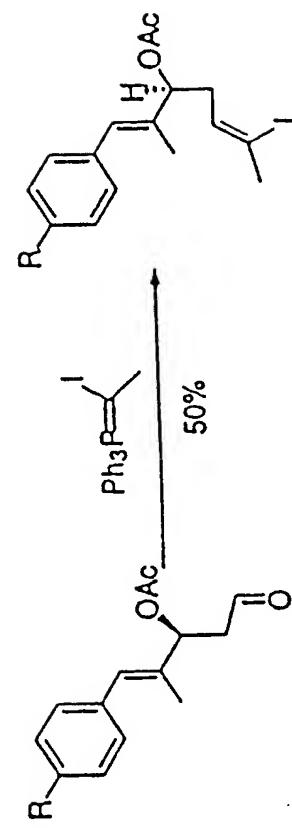


FIG. 26 B



$\text{R} = \text{H, F, CF}_3$   
 $\text{R} = \text{H}$  is the only compound completed,  $\text{F}$  and  $\text{CF}_3$  are nearly completed

FIG. 26 C

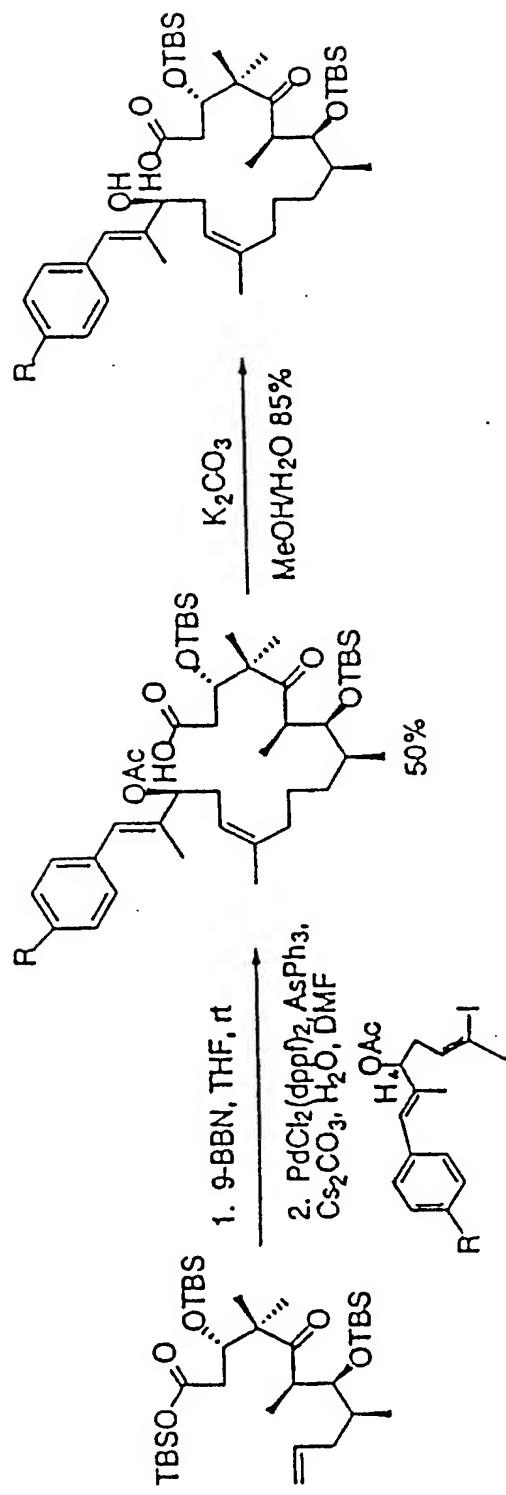


FIG. 26 D

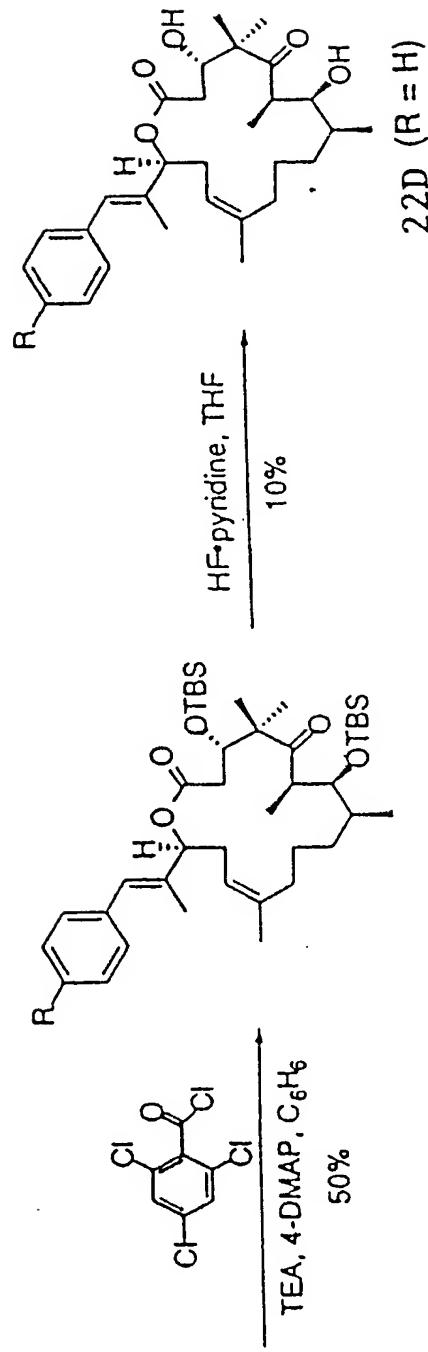


FIG. 27A

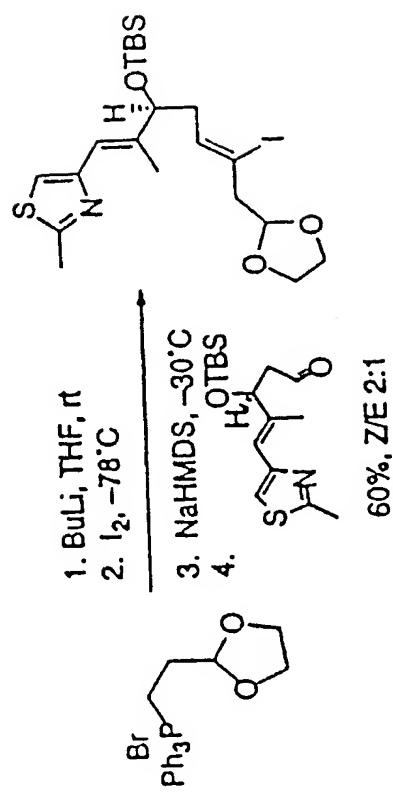


FIG. 27B

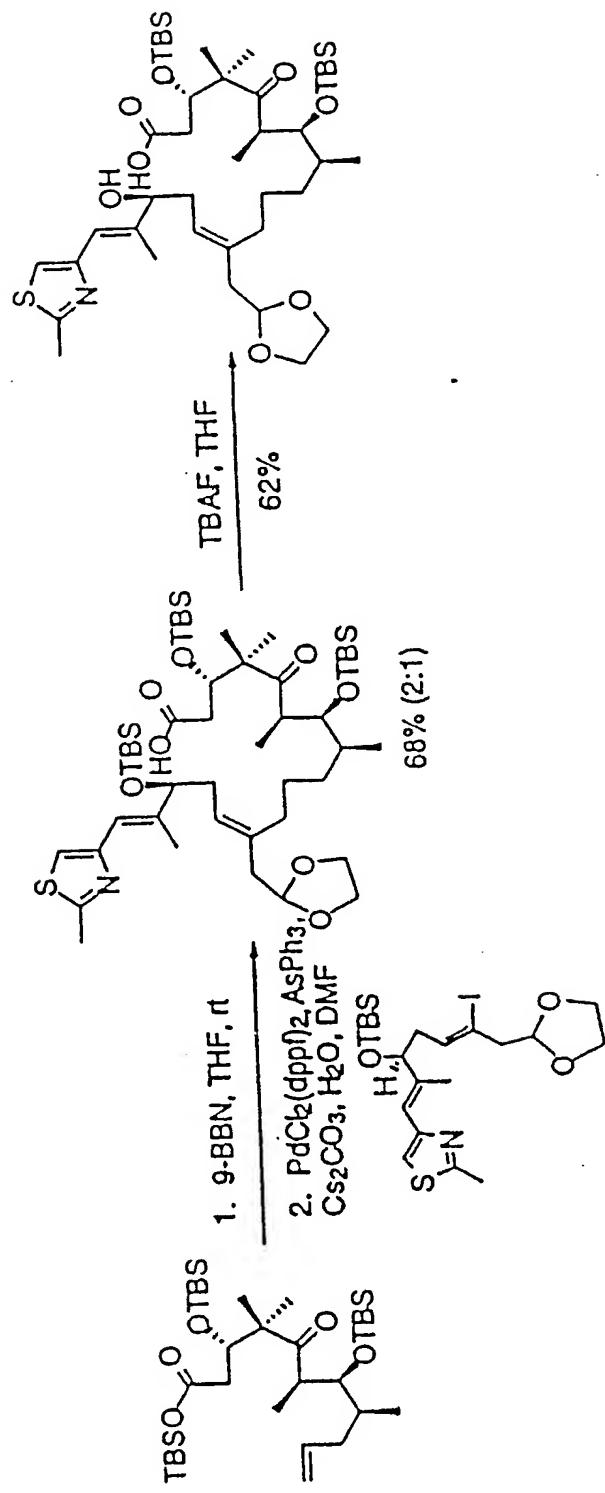


FIG. 27C

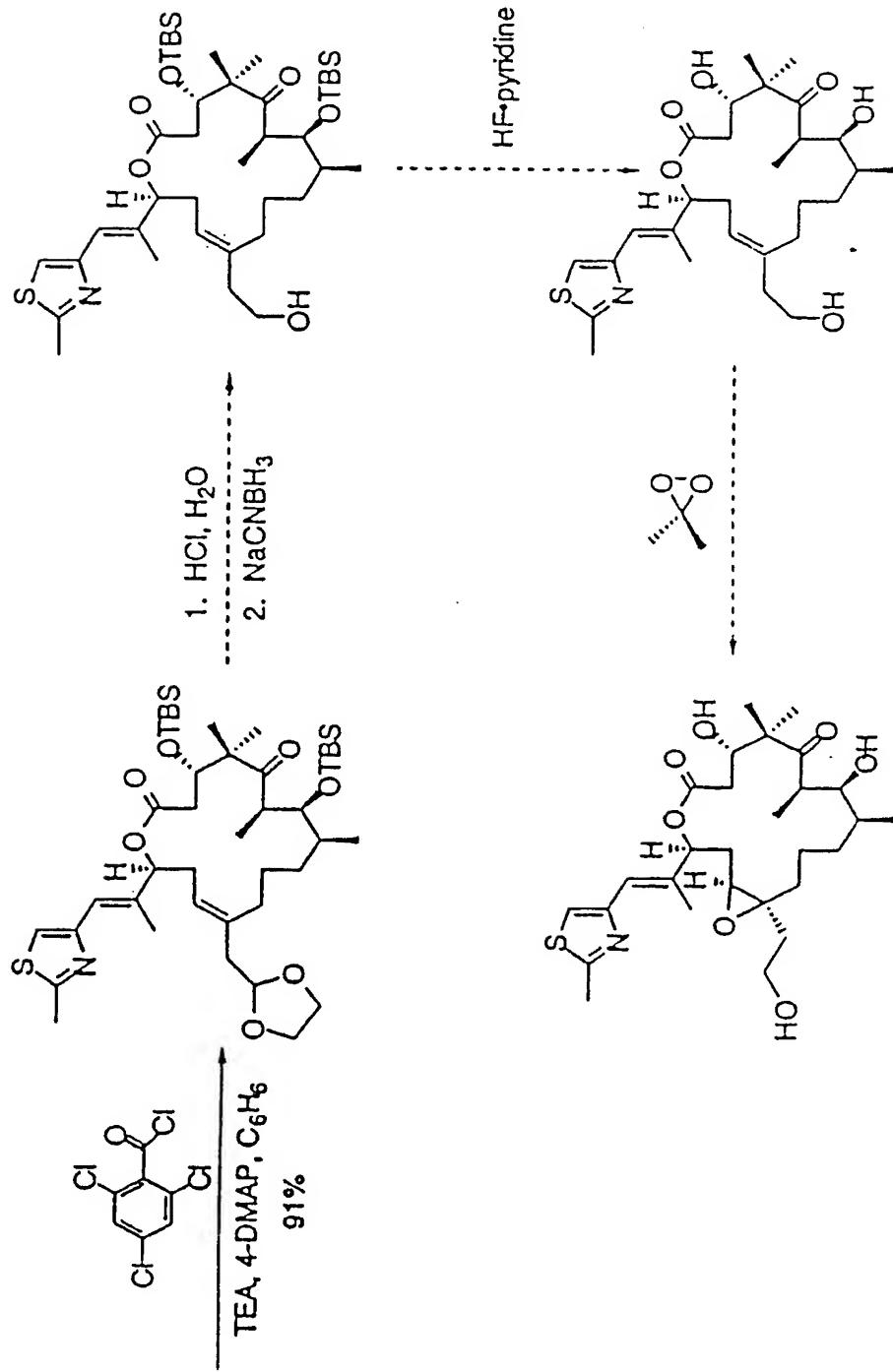


FIG. 28A

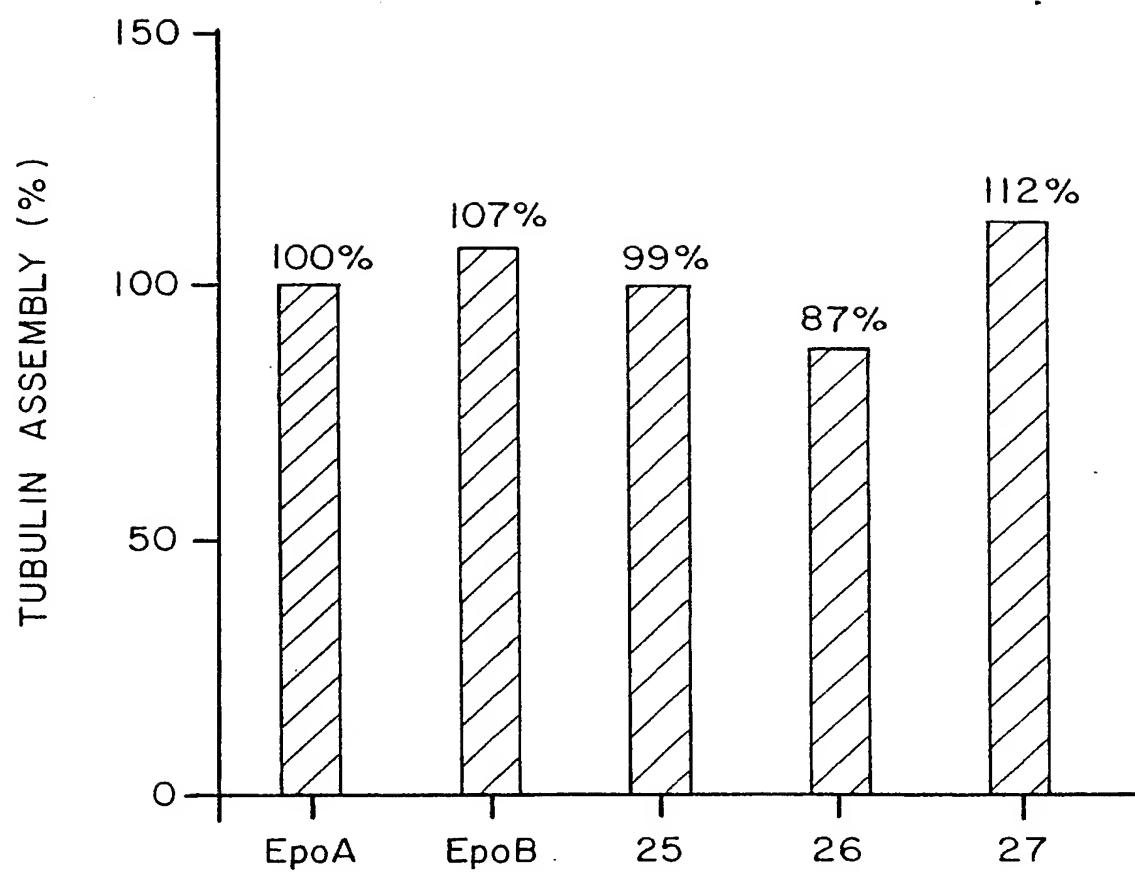


FIG. 28B

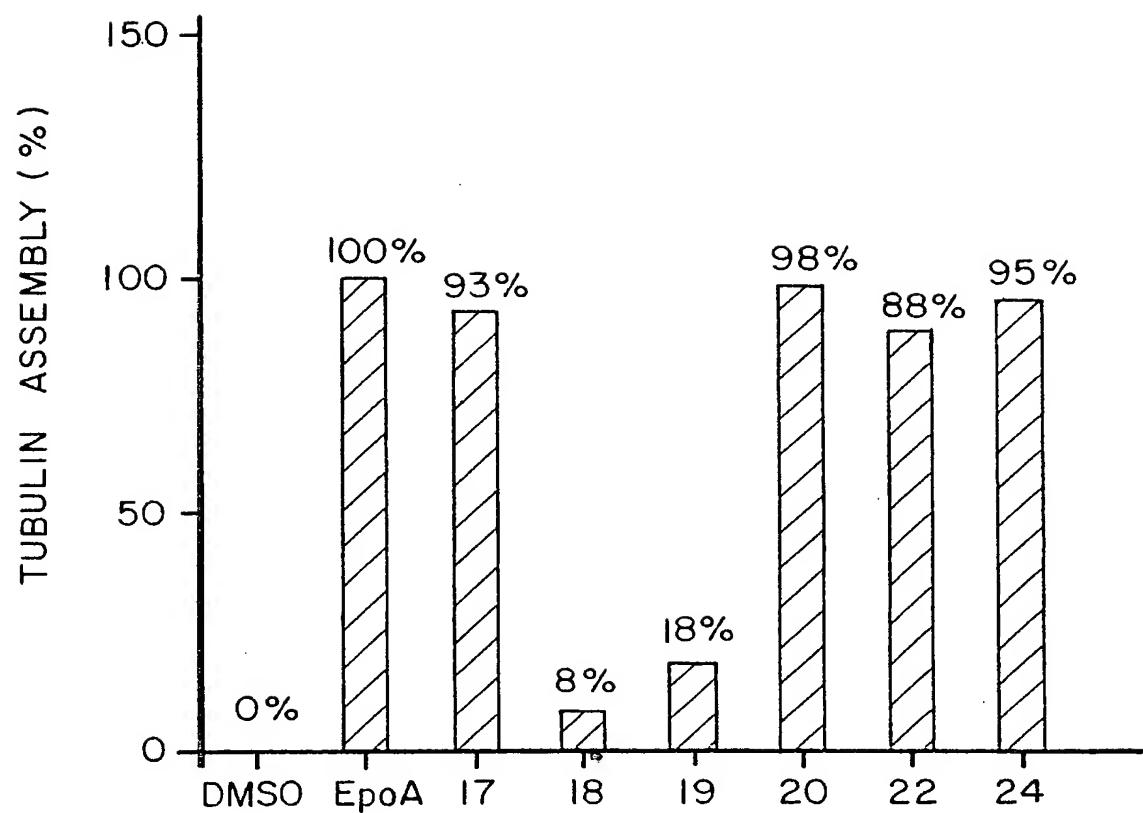
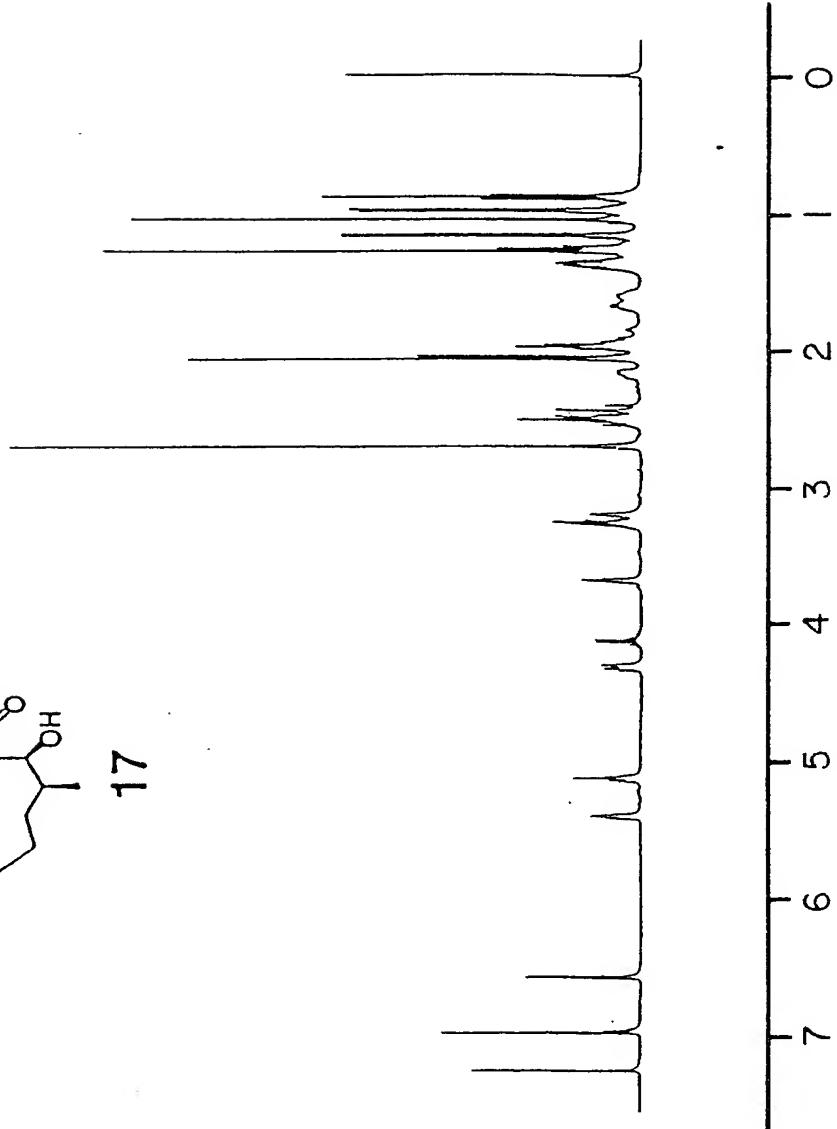
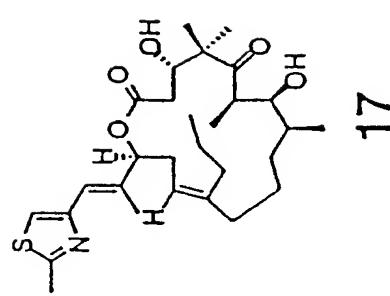
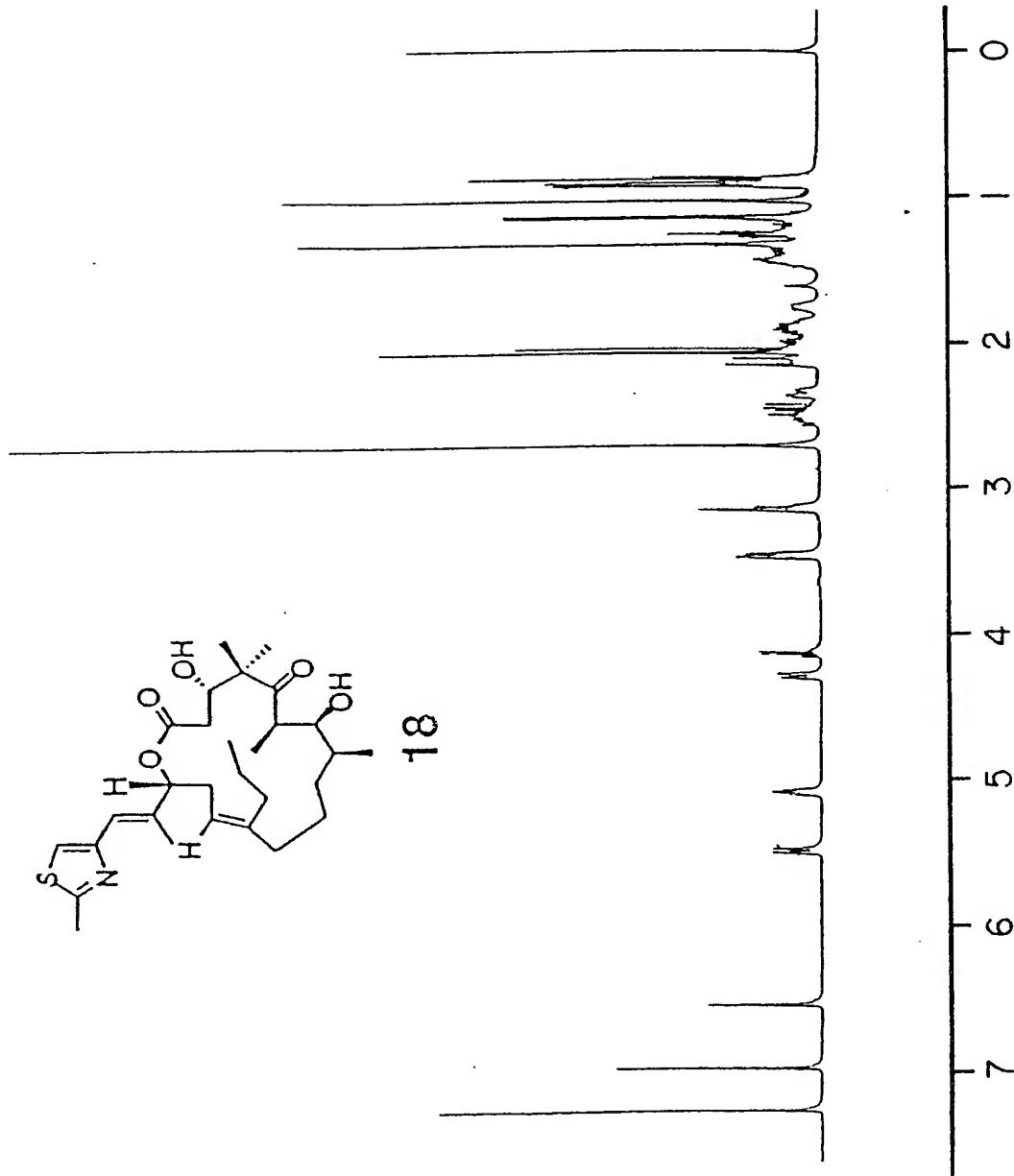


FIG. 29



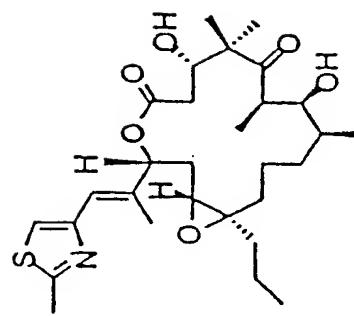
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FIG. 30

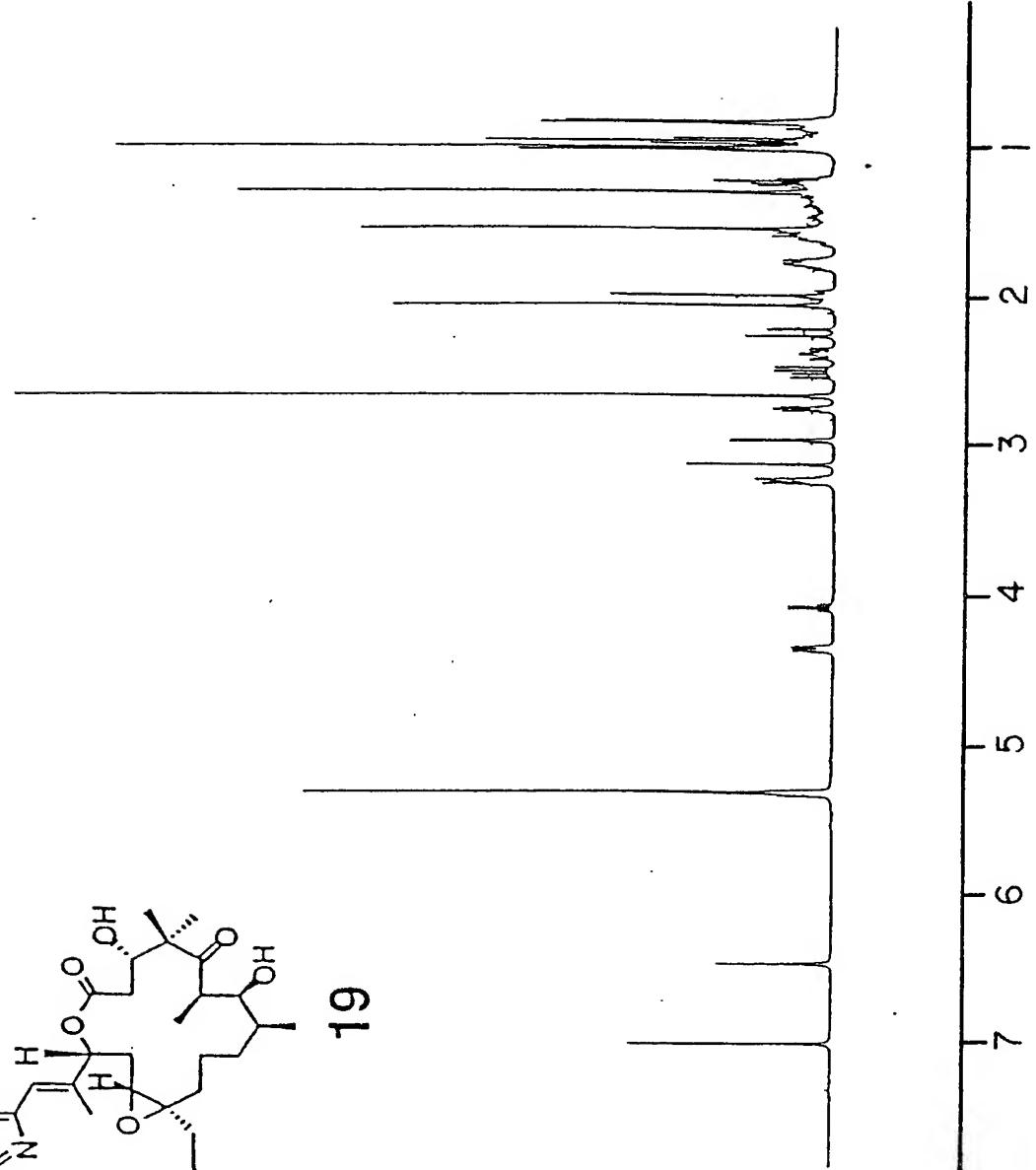


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FIG. 31

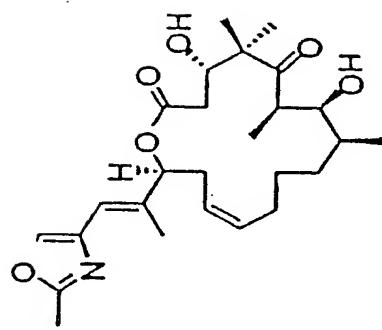


19

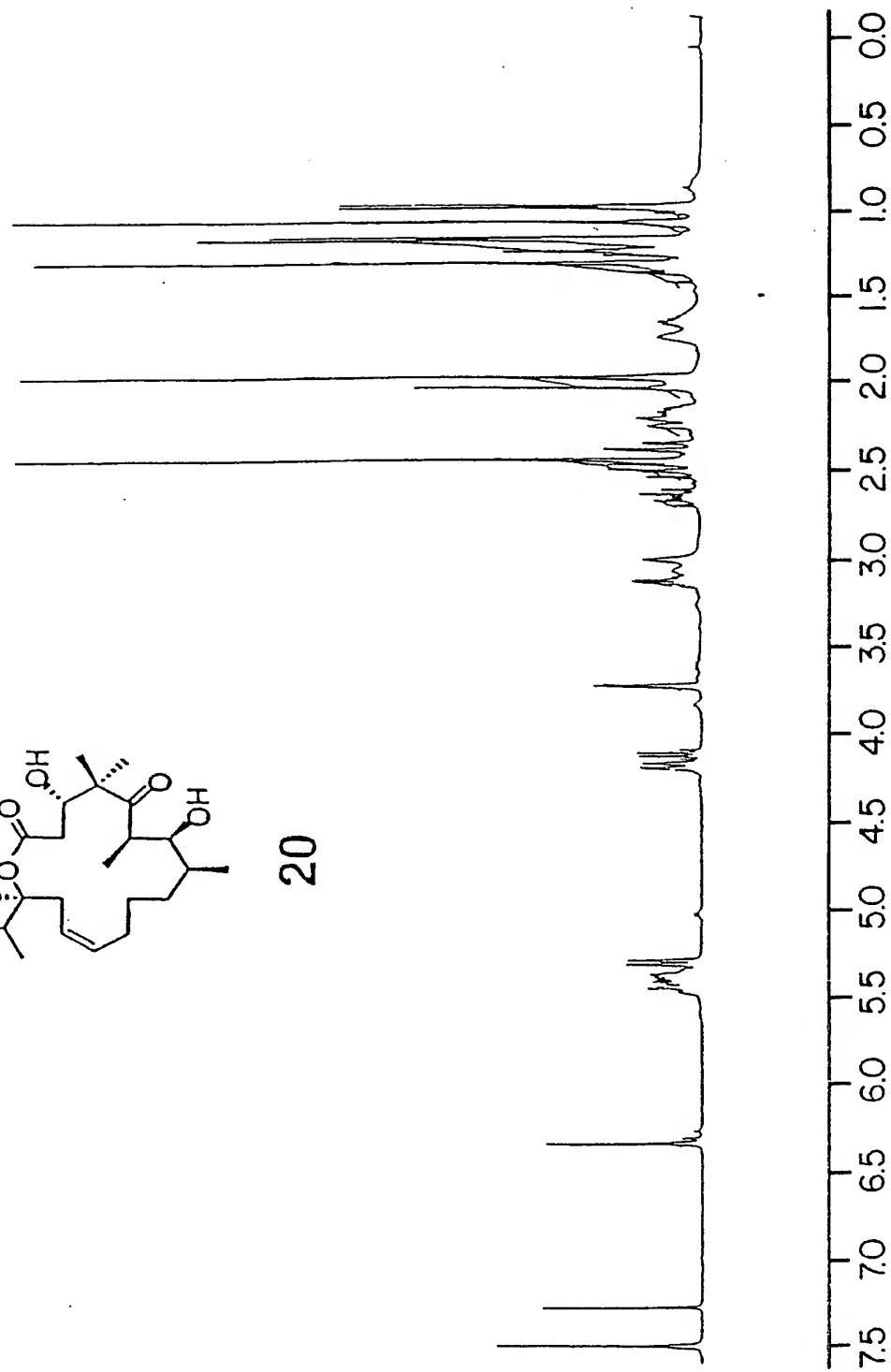


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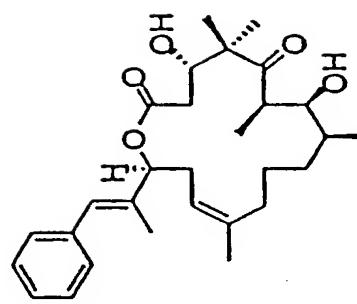


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FIG. 33



22

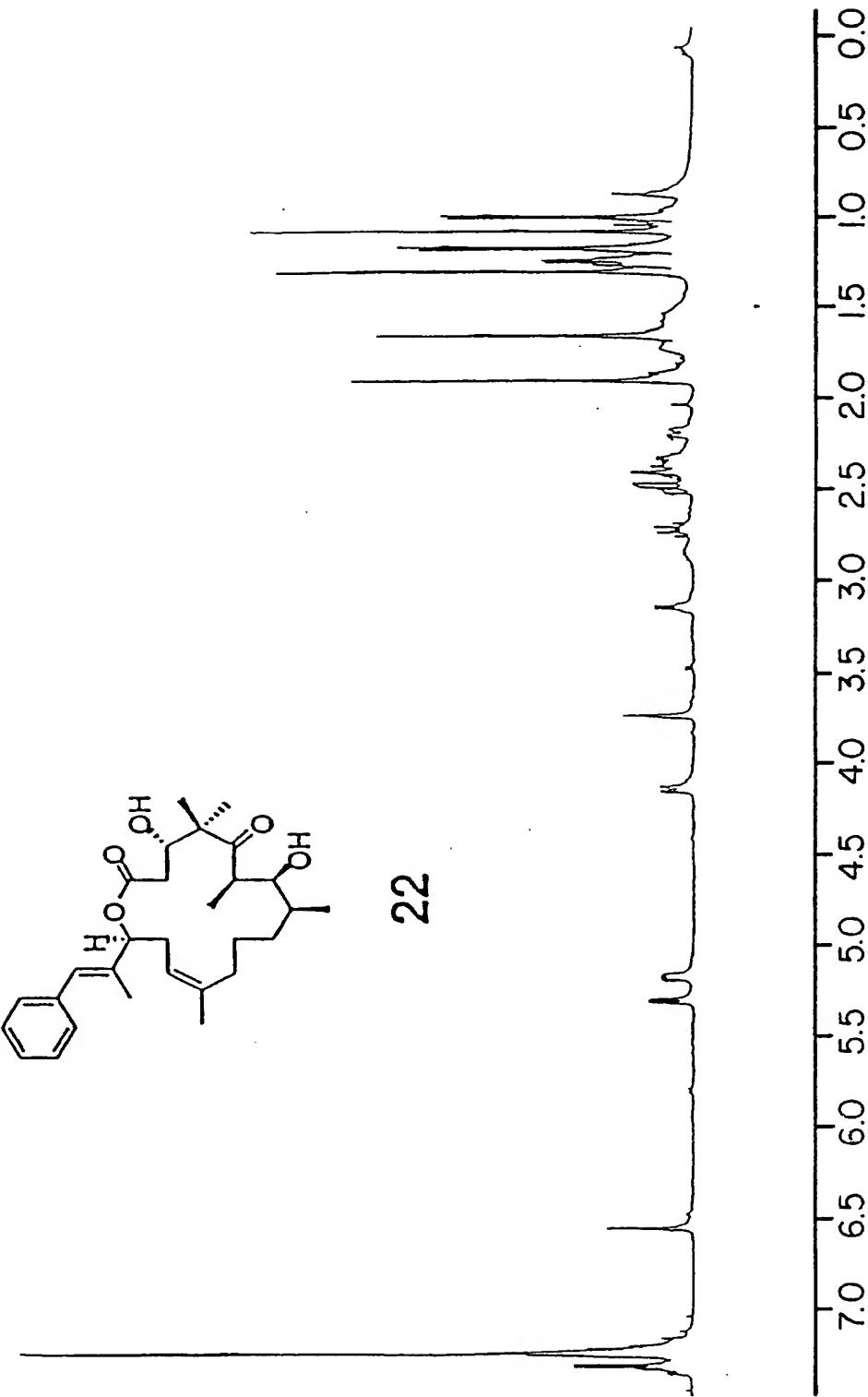
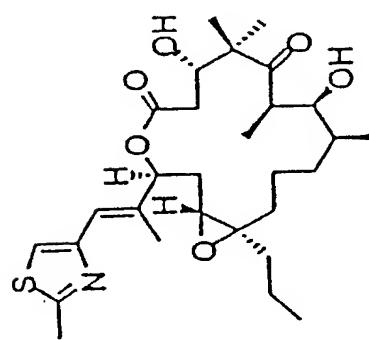
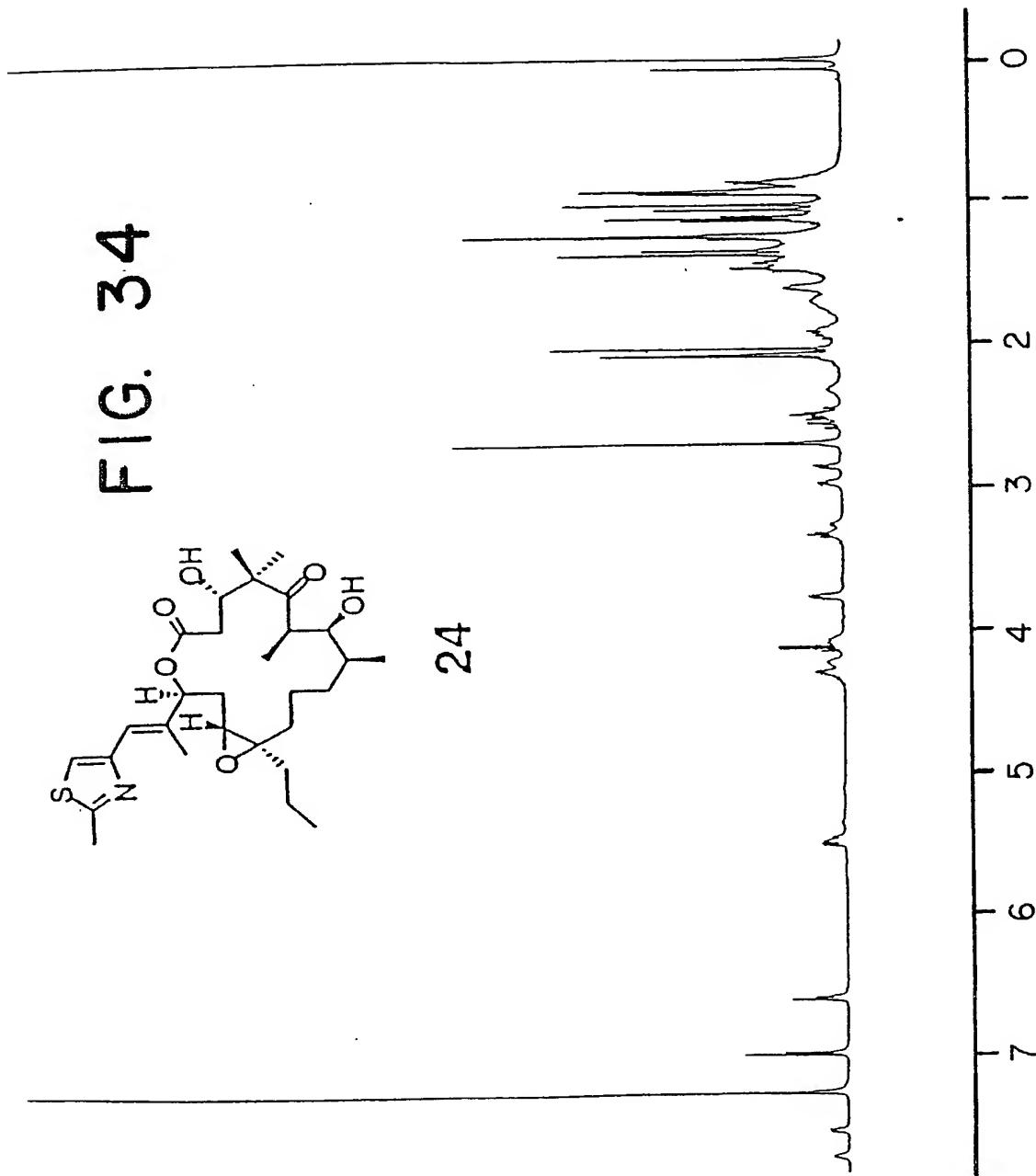


FIG. 34

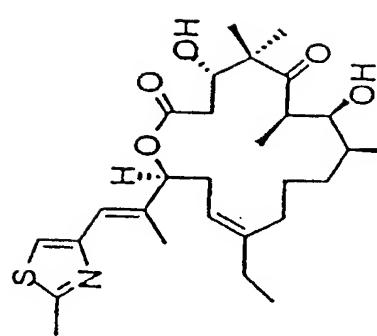


24

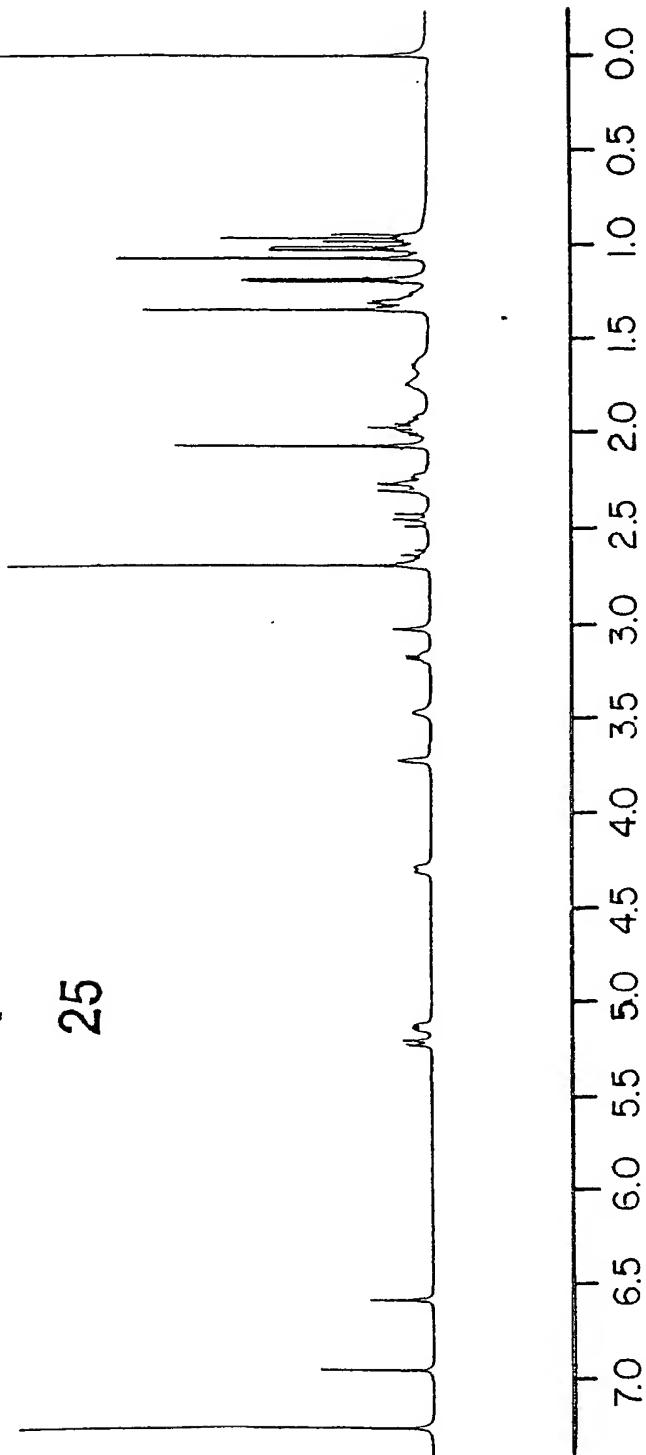


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FIG. 35

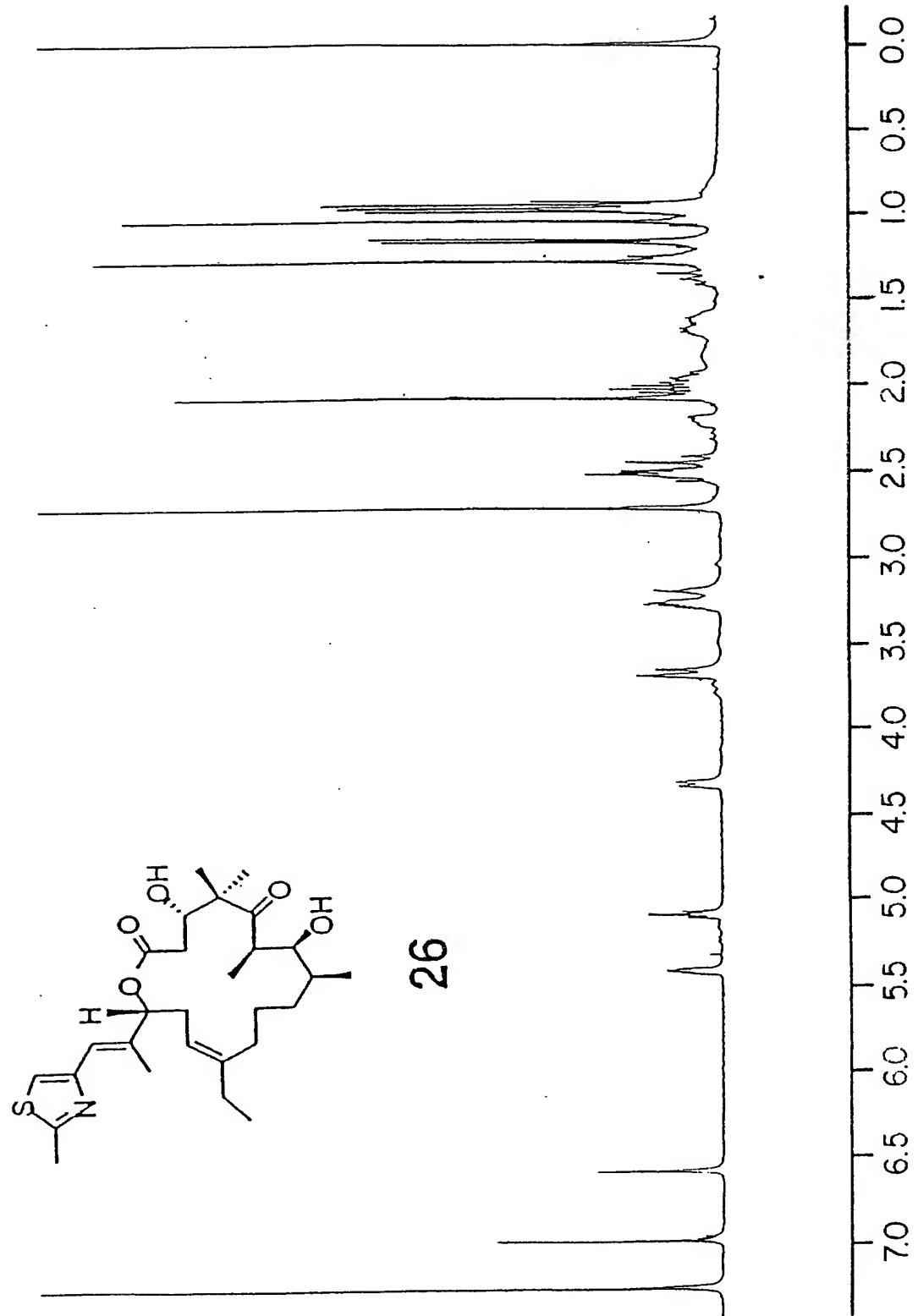


25



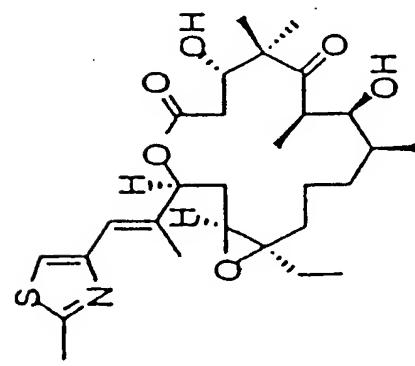
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FIG. 36



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FIG. 37



27

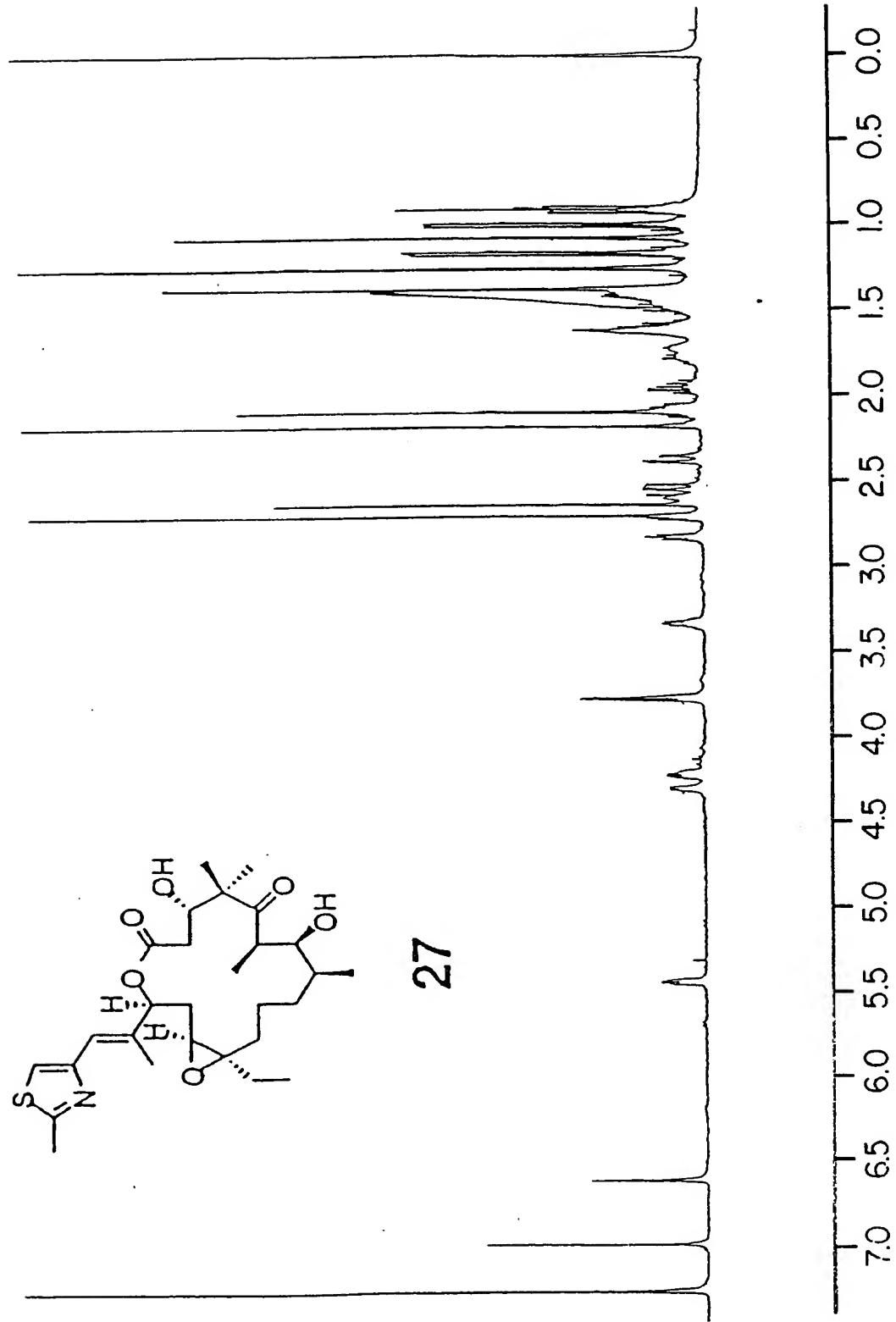


FIG. 38

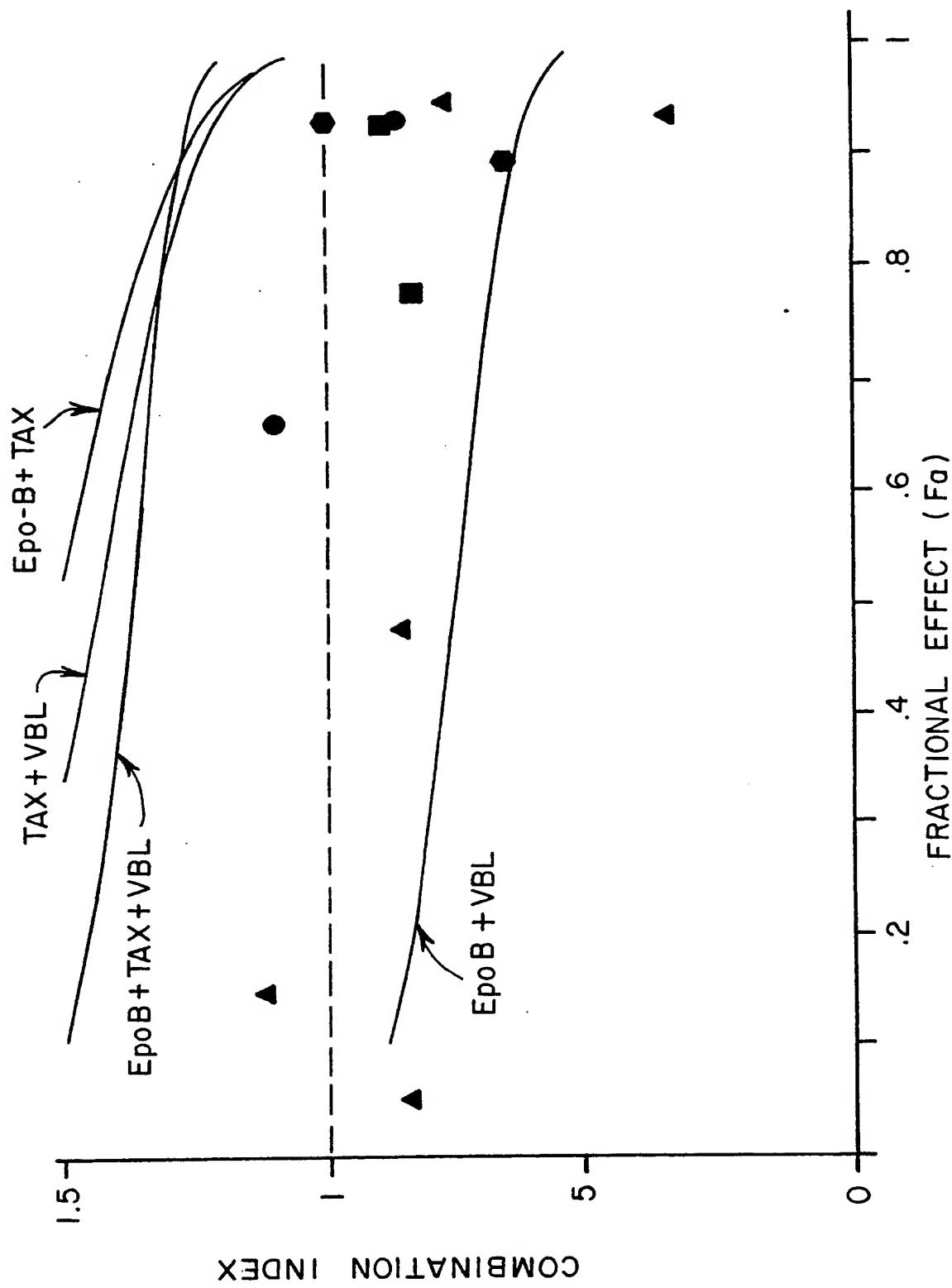


FIG. 39A

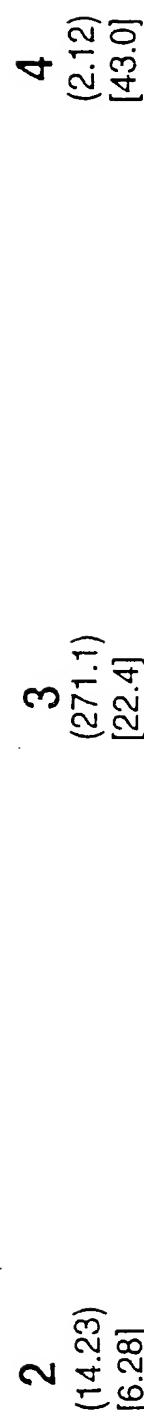
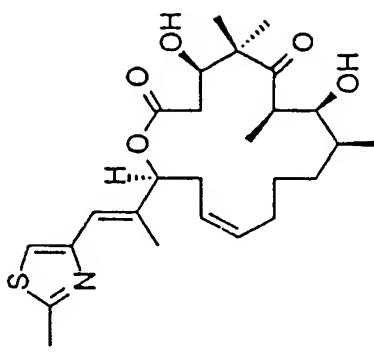
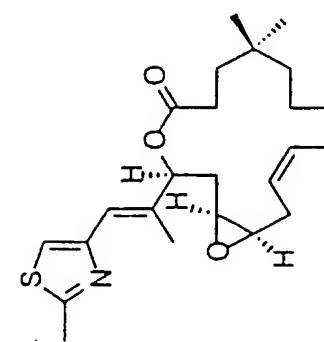
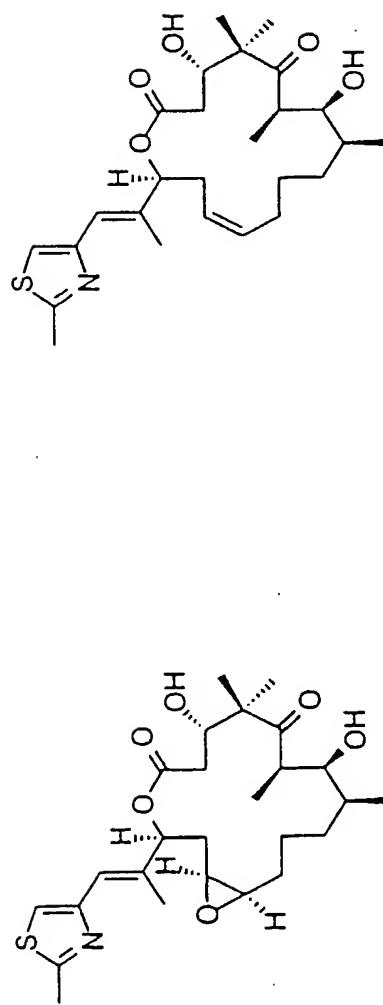


FIG. 39B

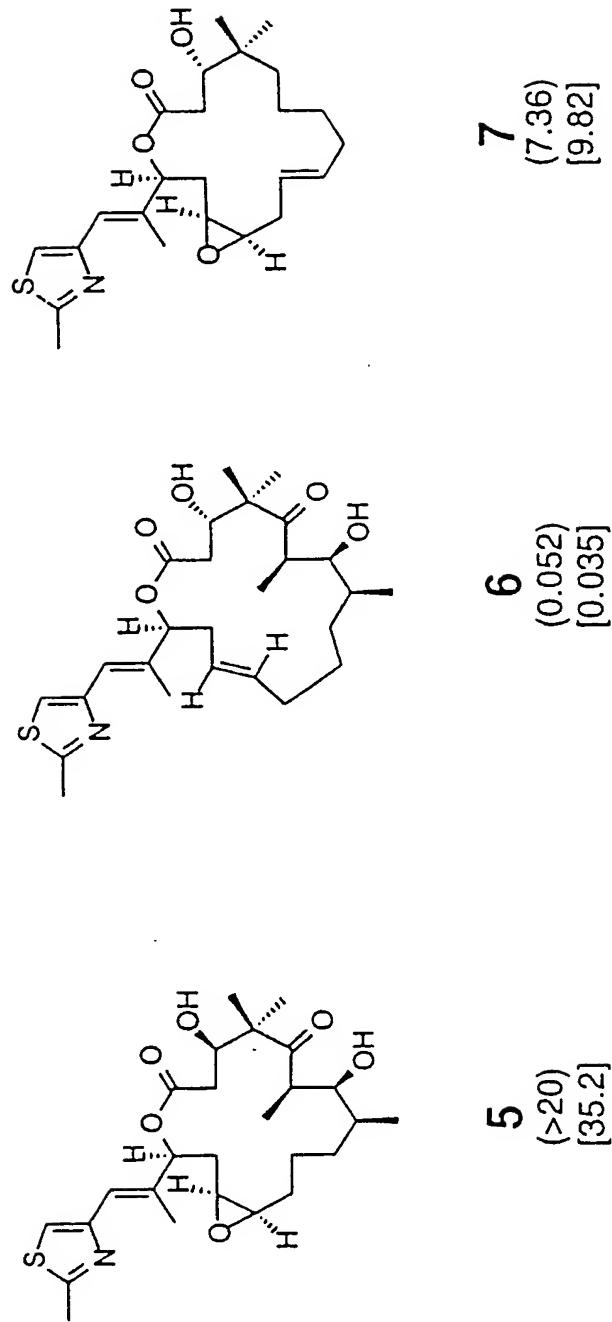


FIG. 40A

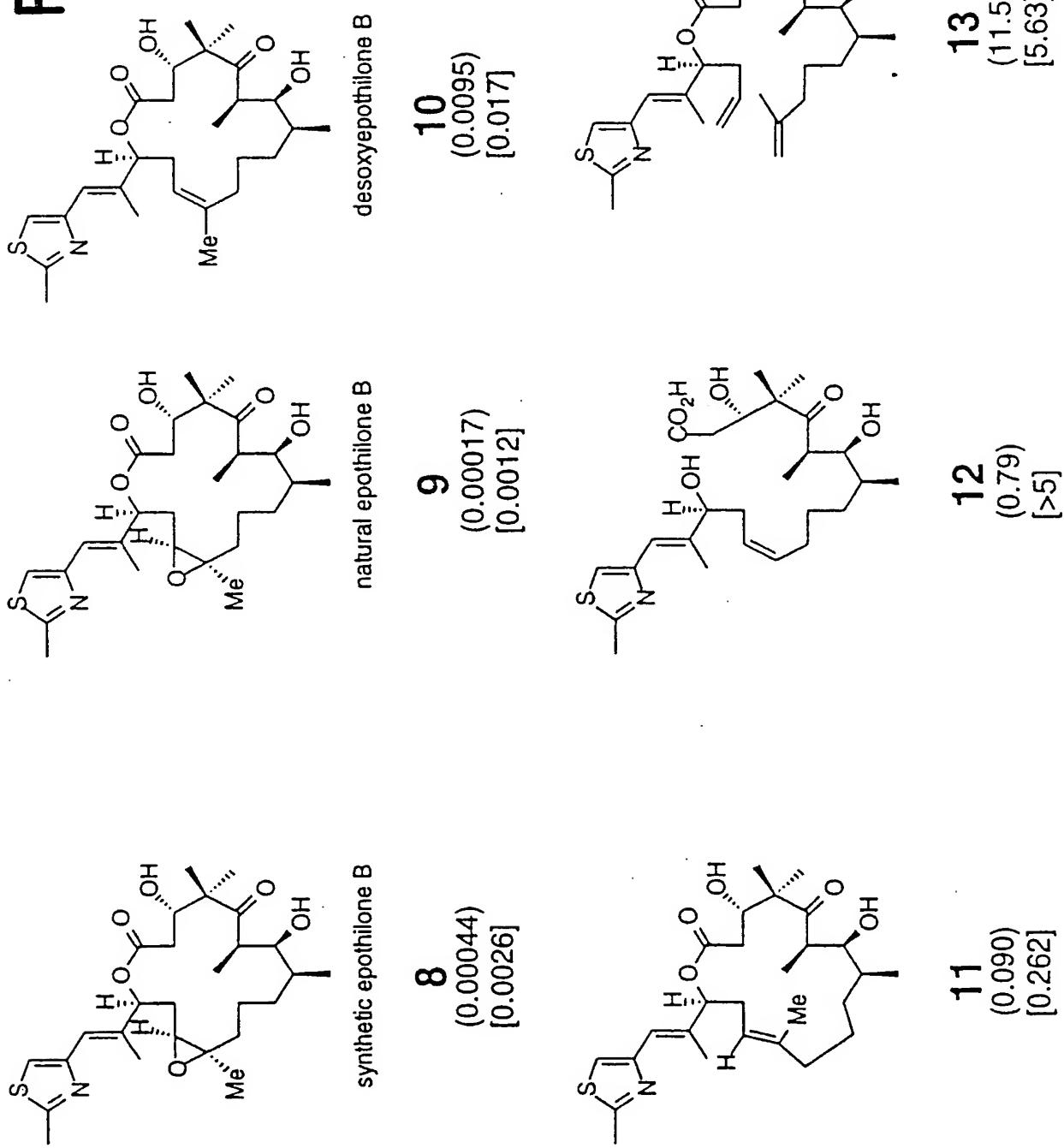


FIG. 40 B

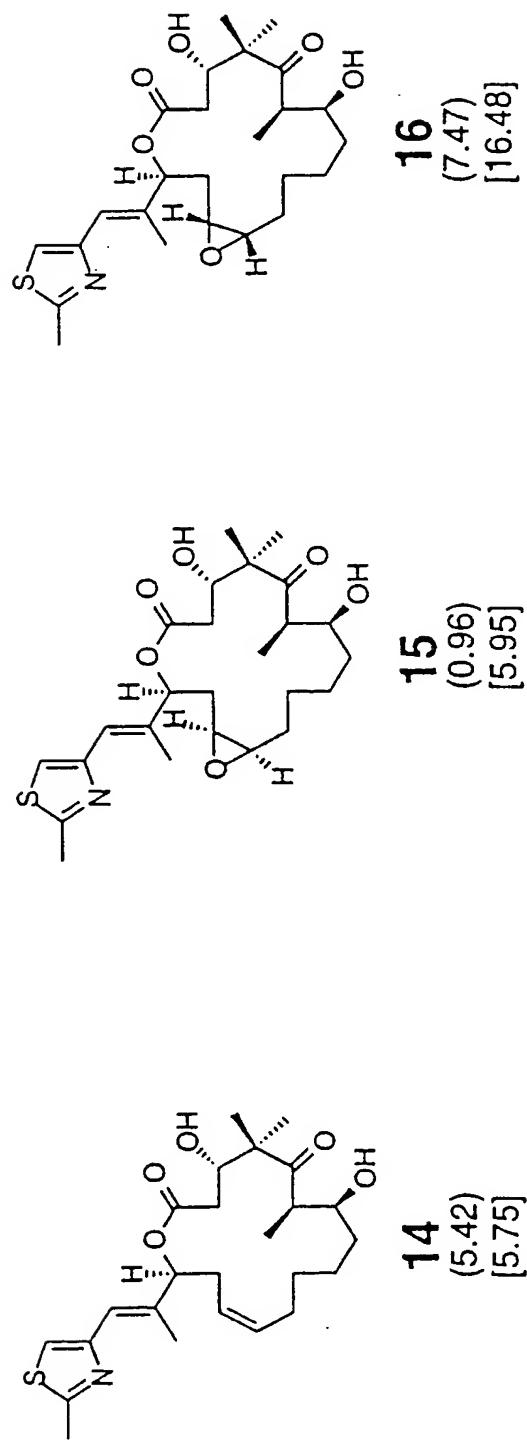
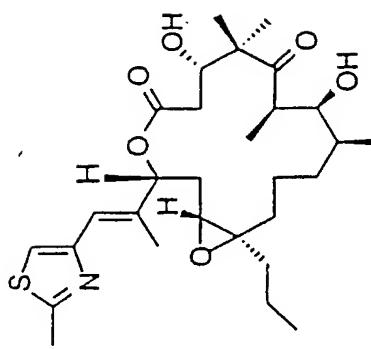
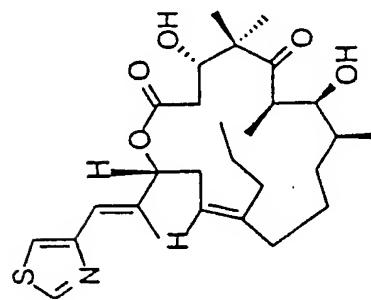
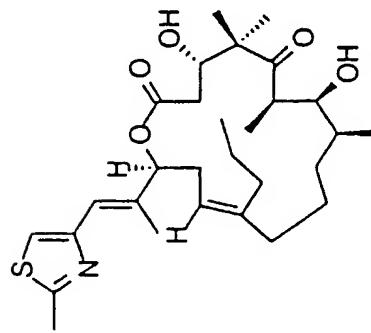
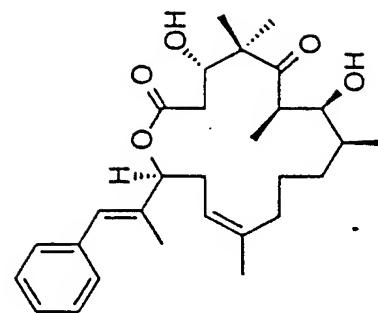
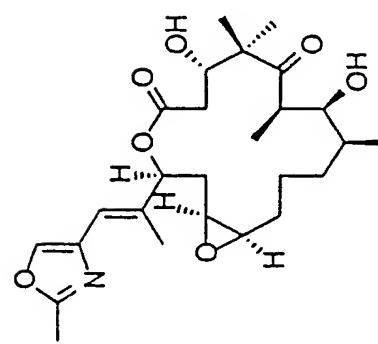
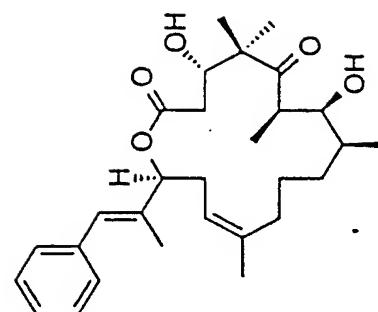


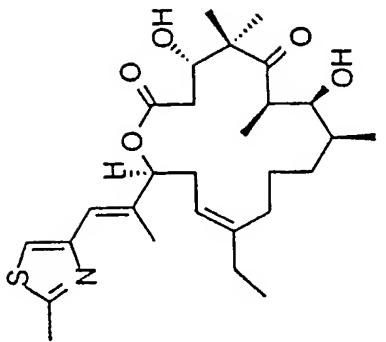
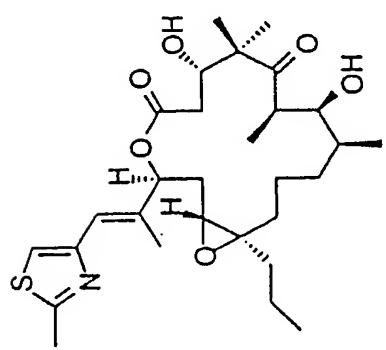
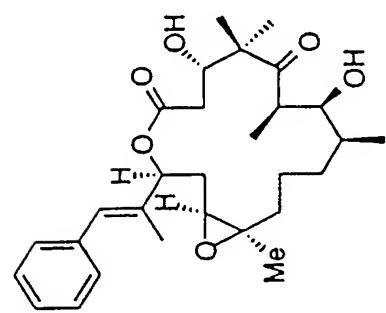
FIG. 4 | A

17  
(0.090)  
[0.254]18  
(1158)  
[>720]19  
(0.96)  
[>1.0]20  
(0.030)  
[0.049]

21

22  
(0.098)  
[0.146]

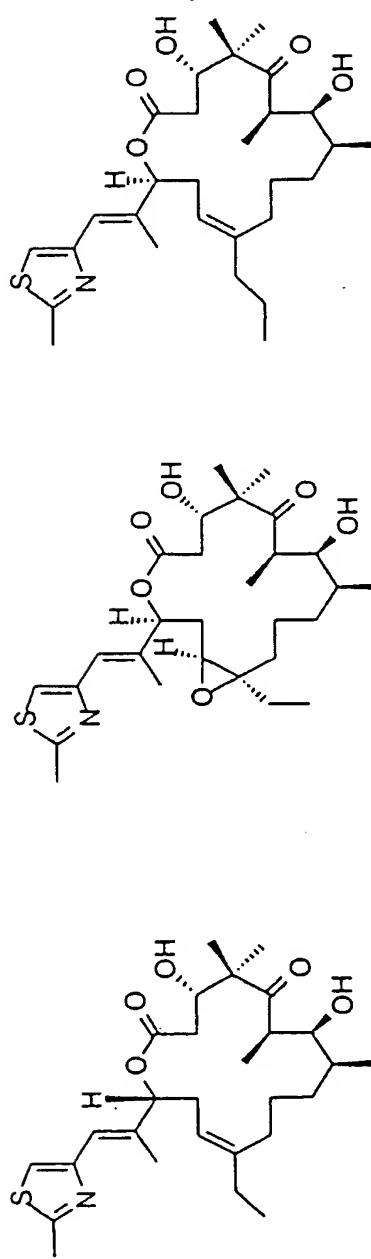
## FIG. 4-1 B



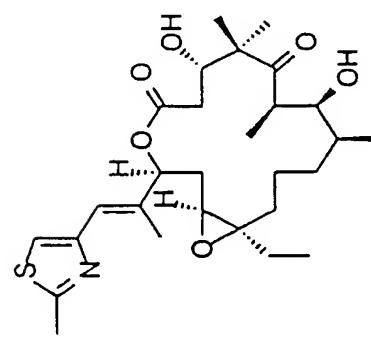
25  
(0.021)  
10.0771

24  
(0.0043)  
[0.0321]

FIG. 42A



**27**  
(0.0010)  
[0.0072]



**28**  
(0.039)  
[0.067]

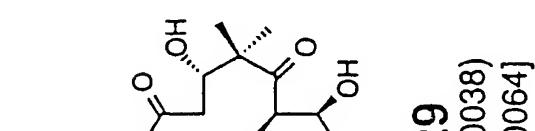
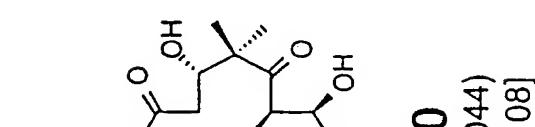
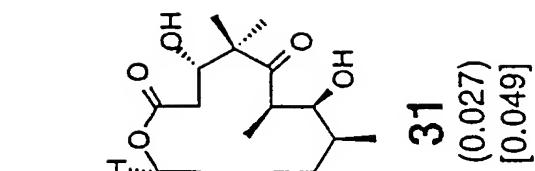
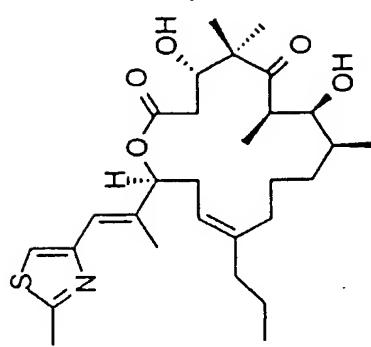


FIG. 42 B

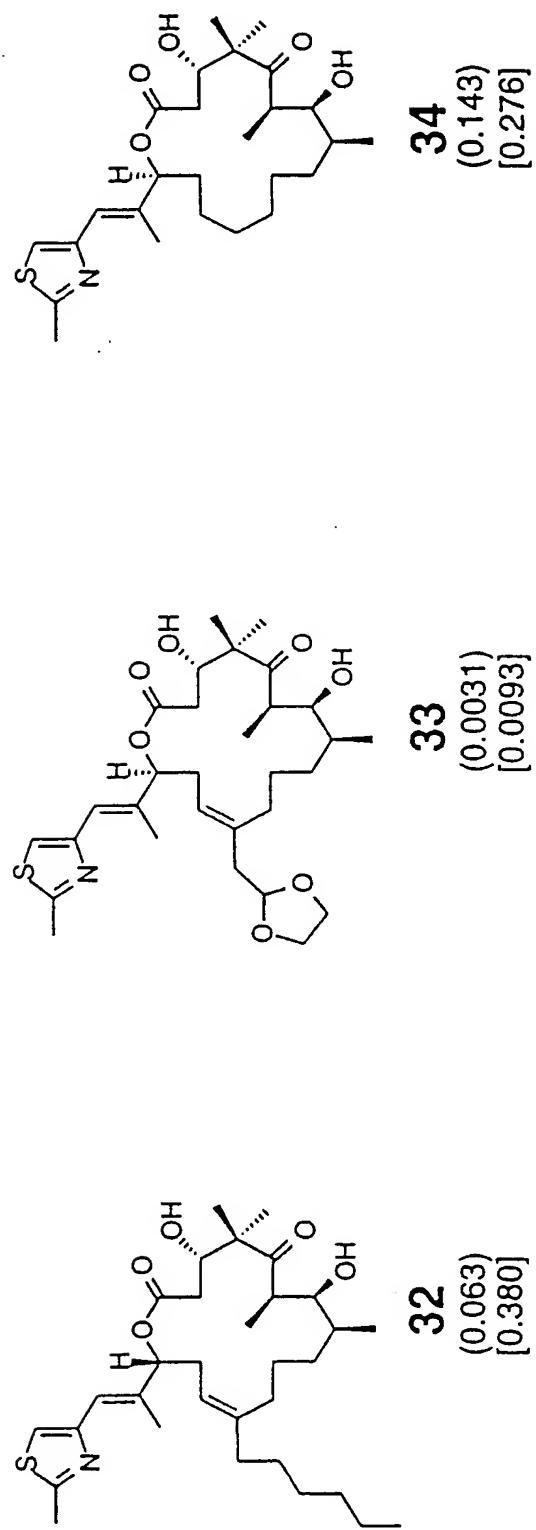


FIG. 42 C

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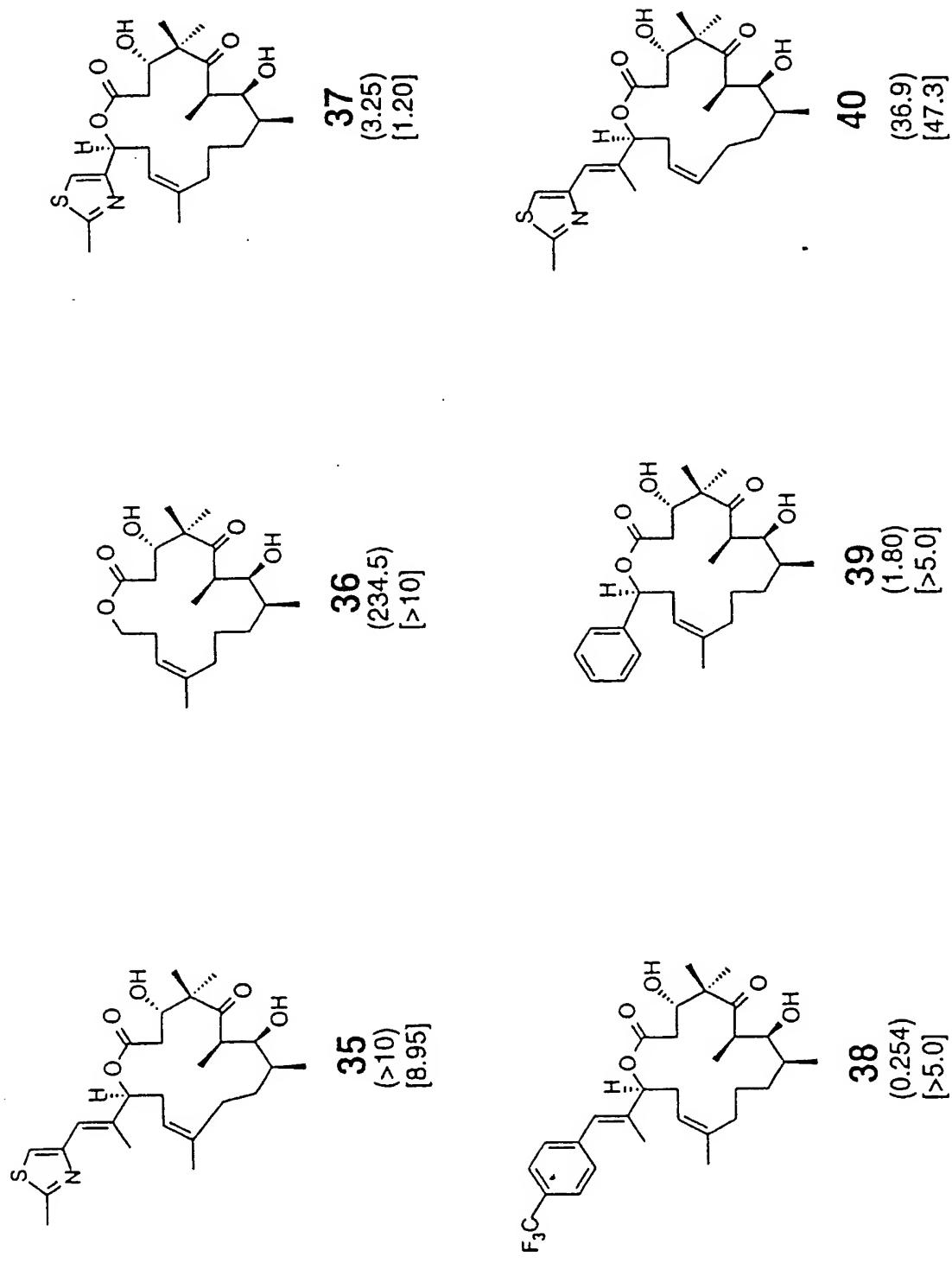
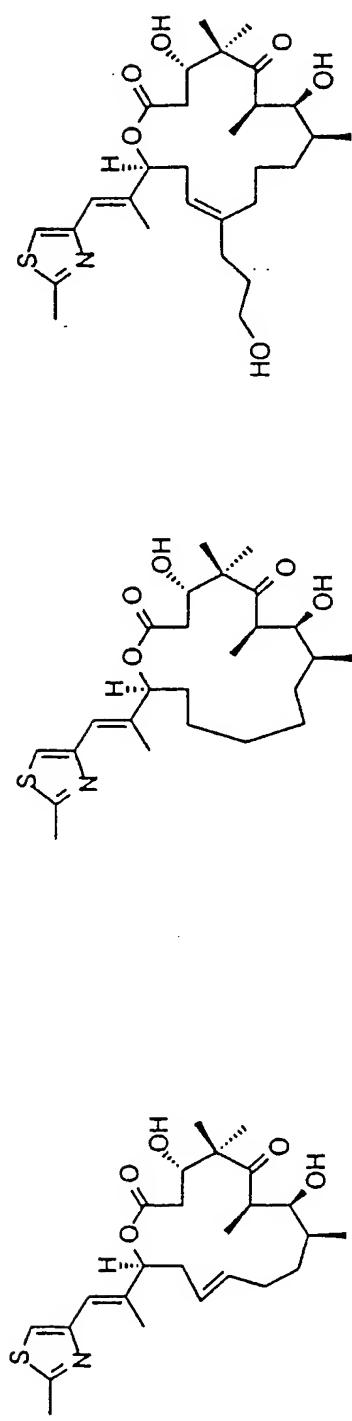
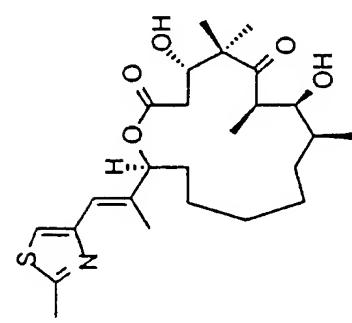


FIG. 42 D

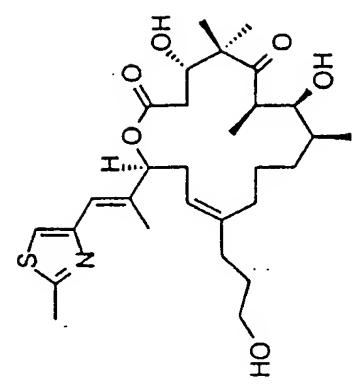
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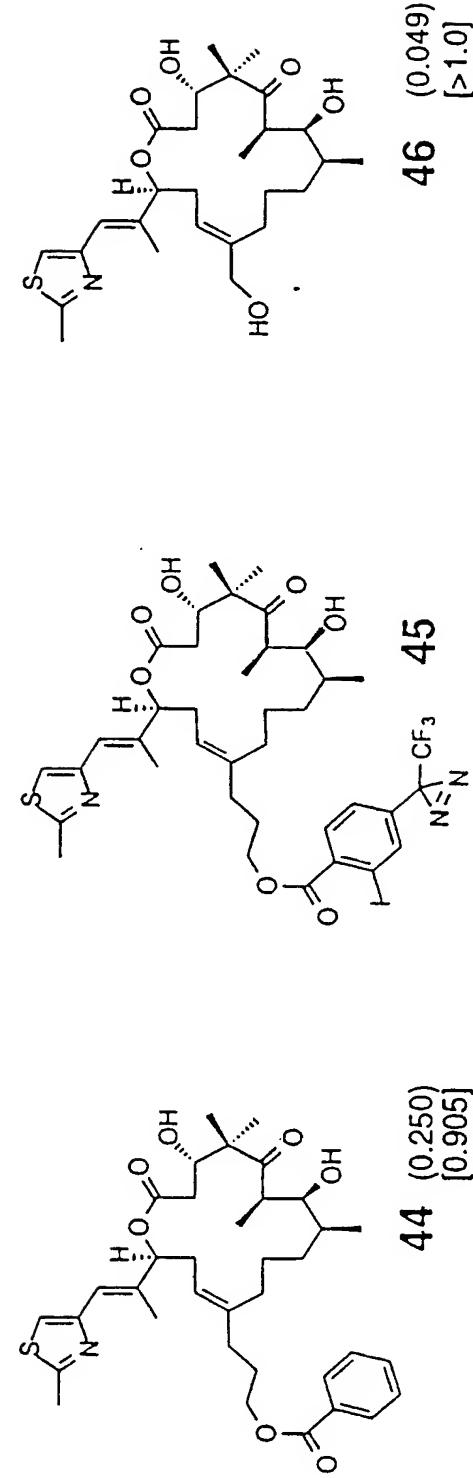
41  
(60.1)  
[59.2]



42  
(7.41)  
[12.9]



43  
(0.0095)  
[0.167]

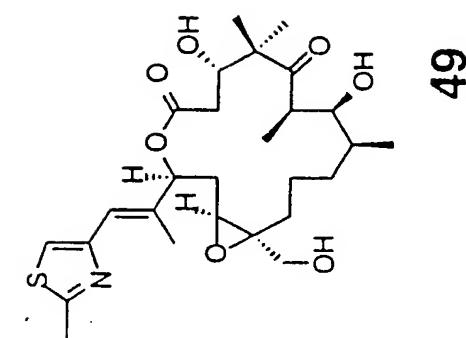
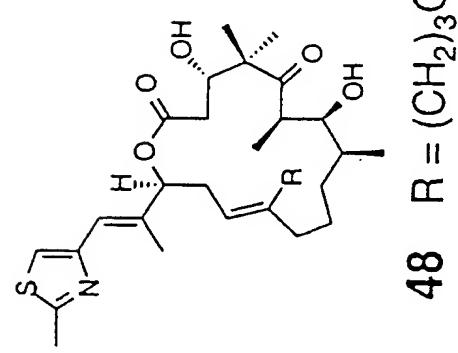
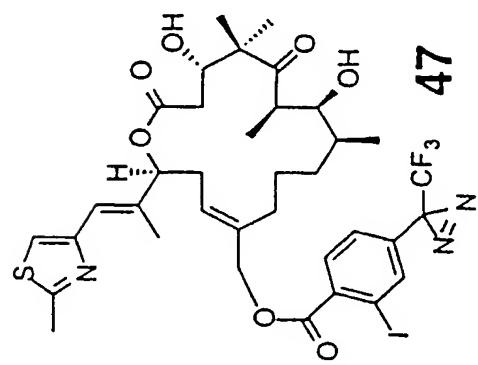


44 (0.250)  
[0.905]

45  
N=N-CF<sub>3</sub>

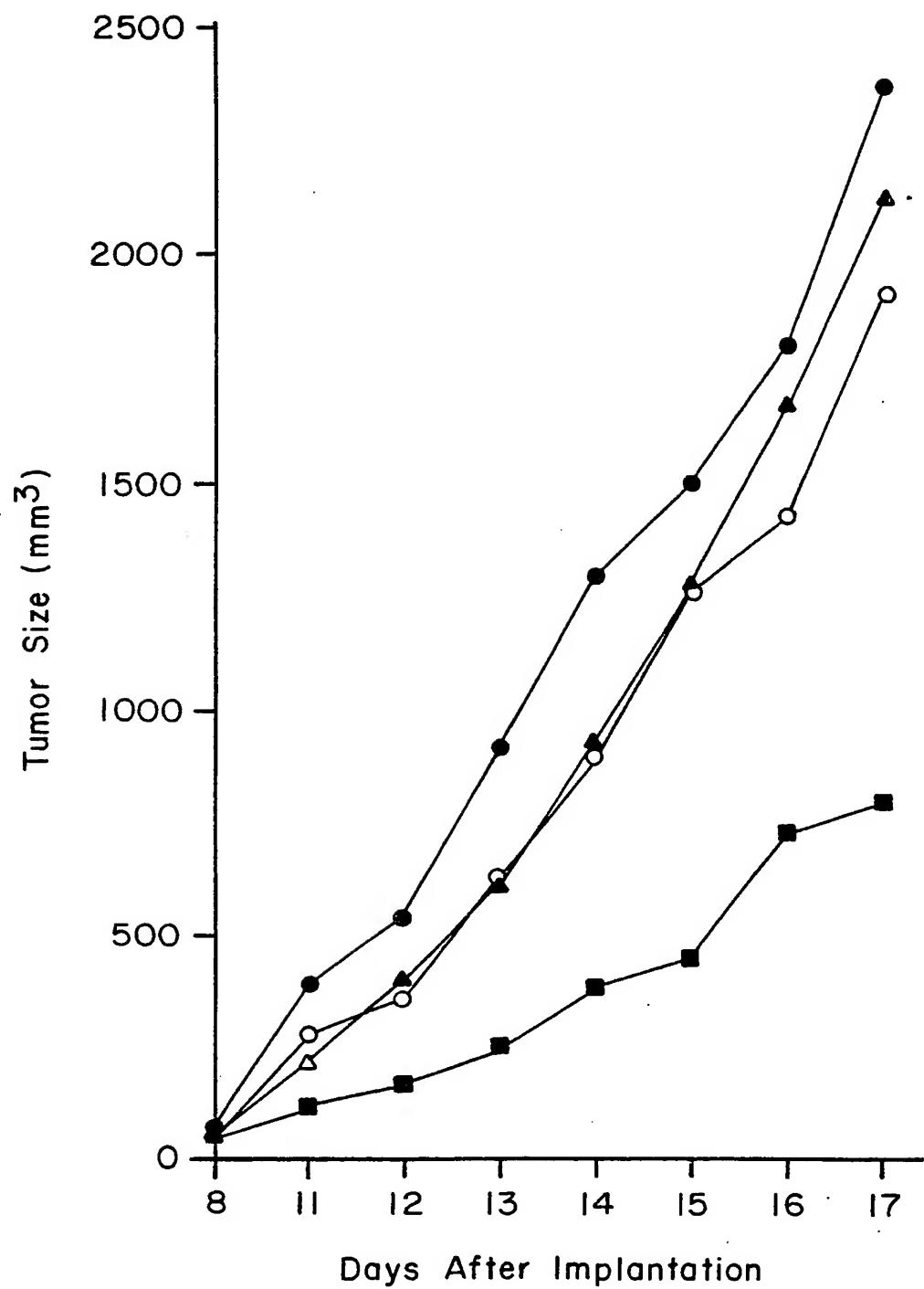
46 (0.049)  
[>1.0]

FIG. 42 E



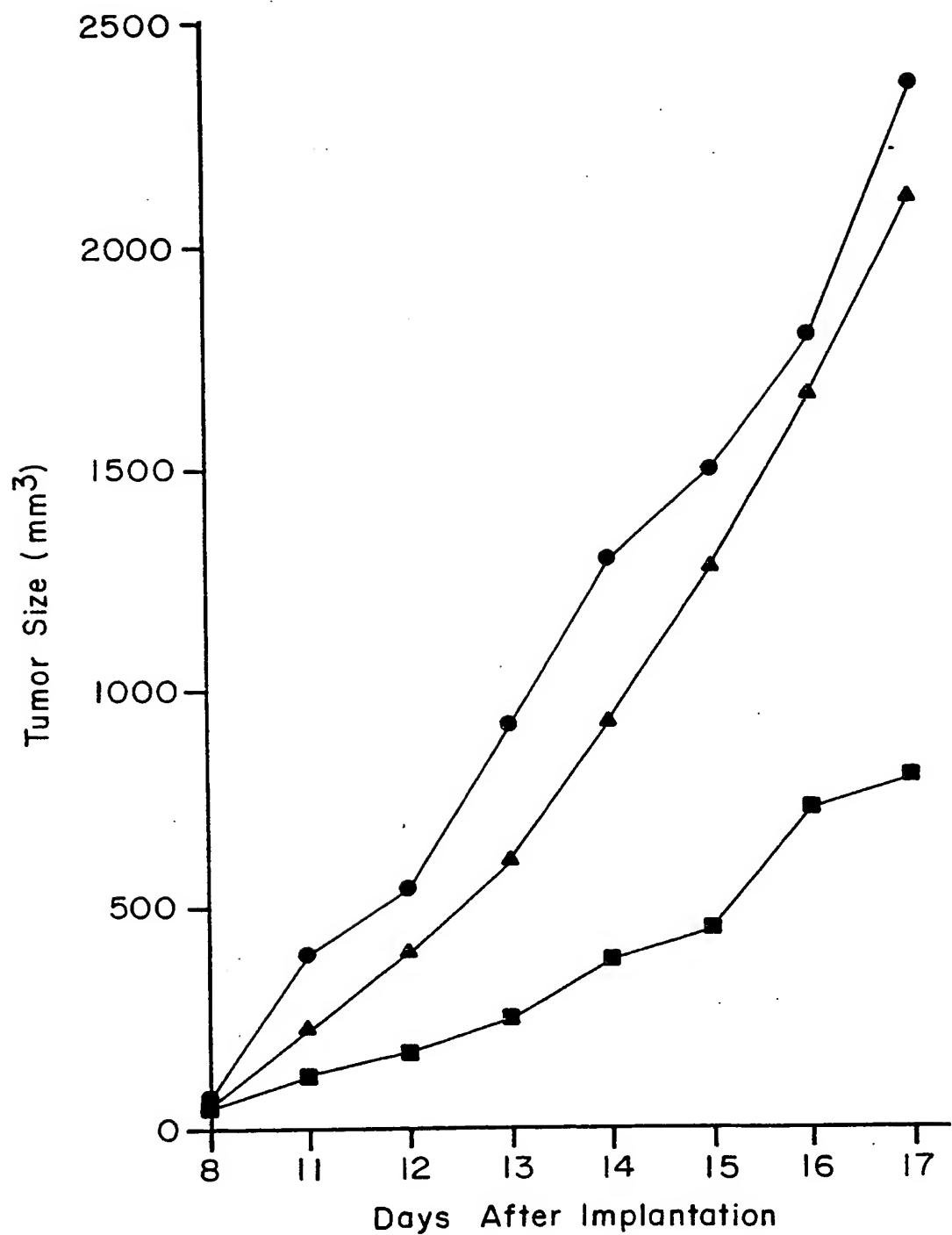
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FIG. 43A



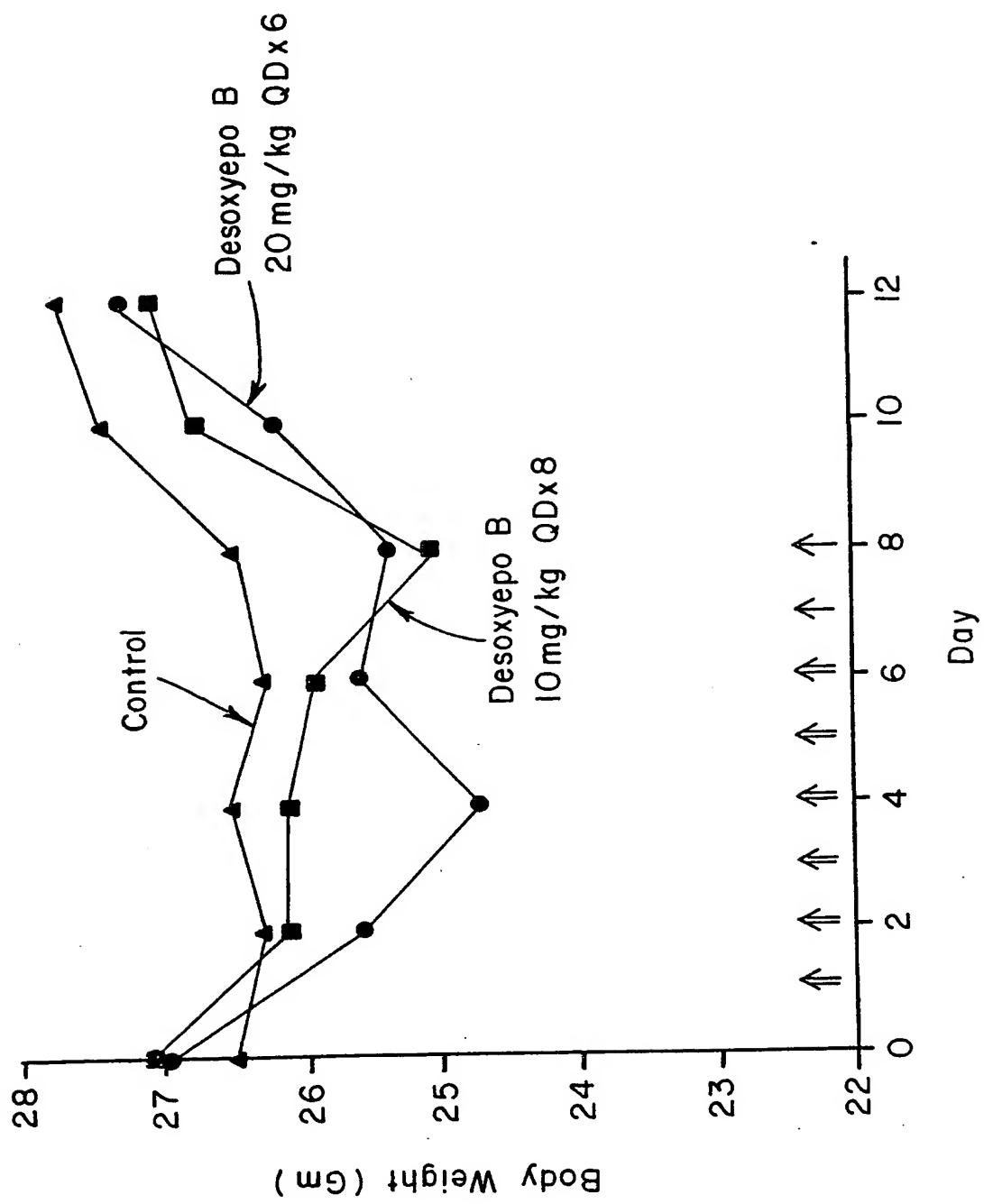
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FIG. 43 B



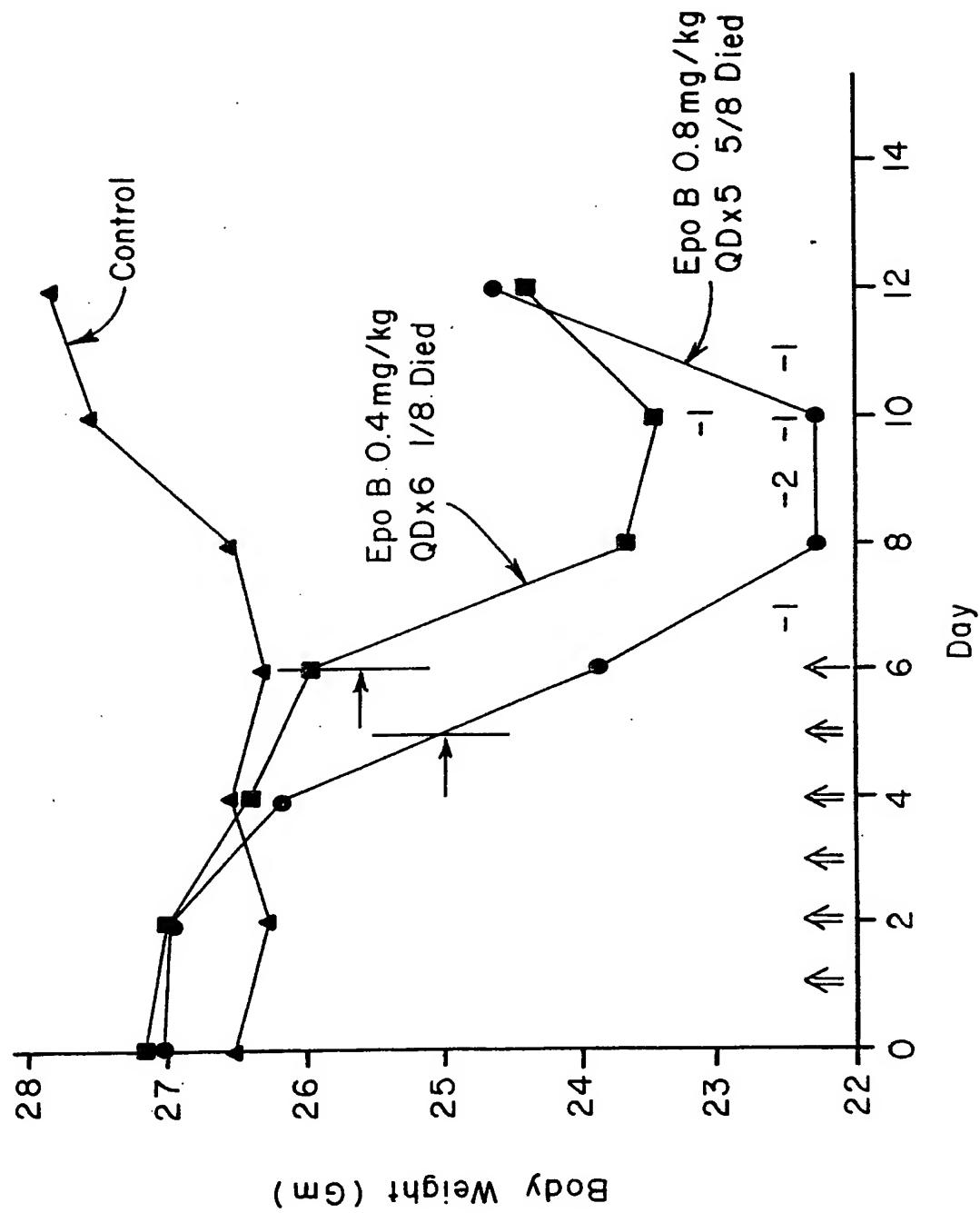
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FIG. 44A



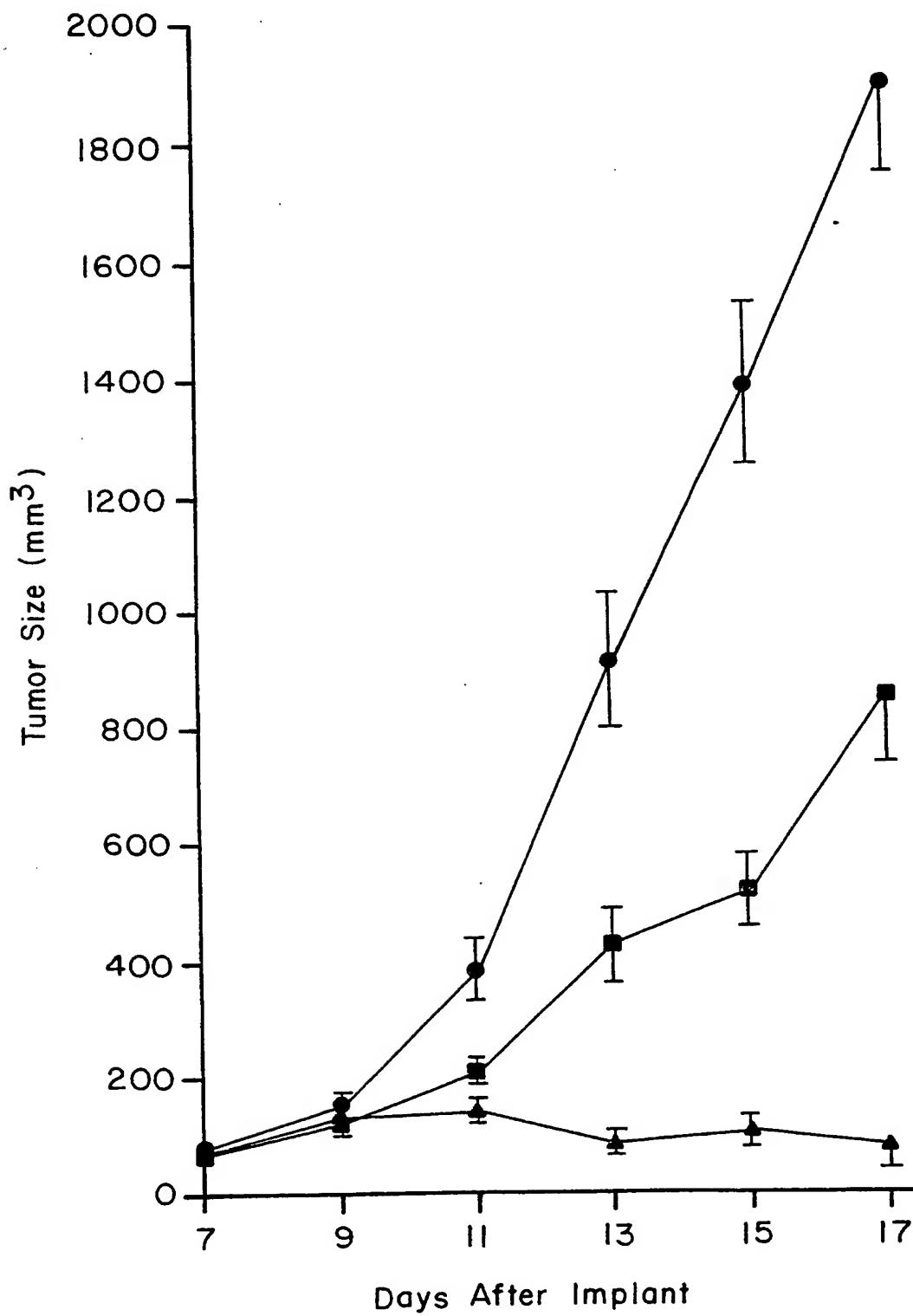
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FIG. 44 B



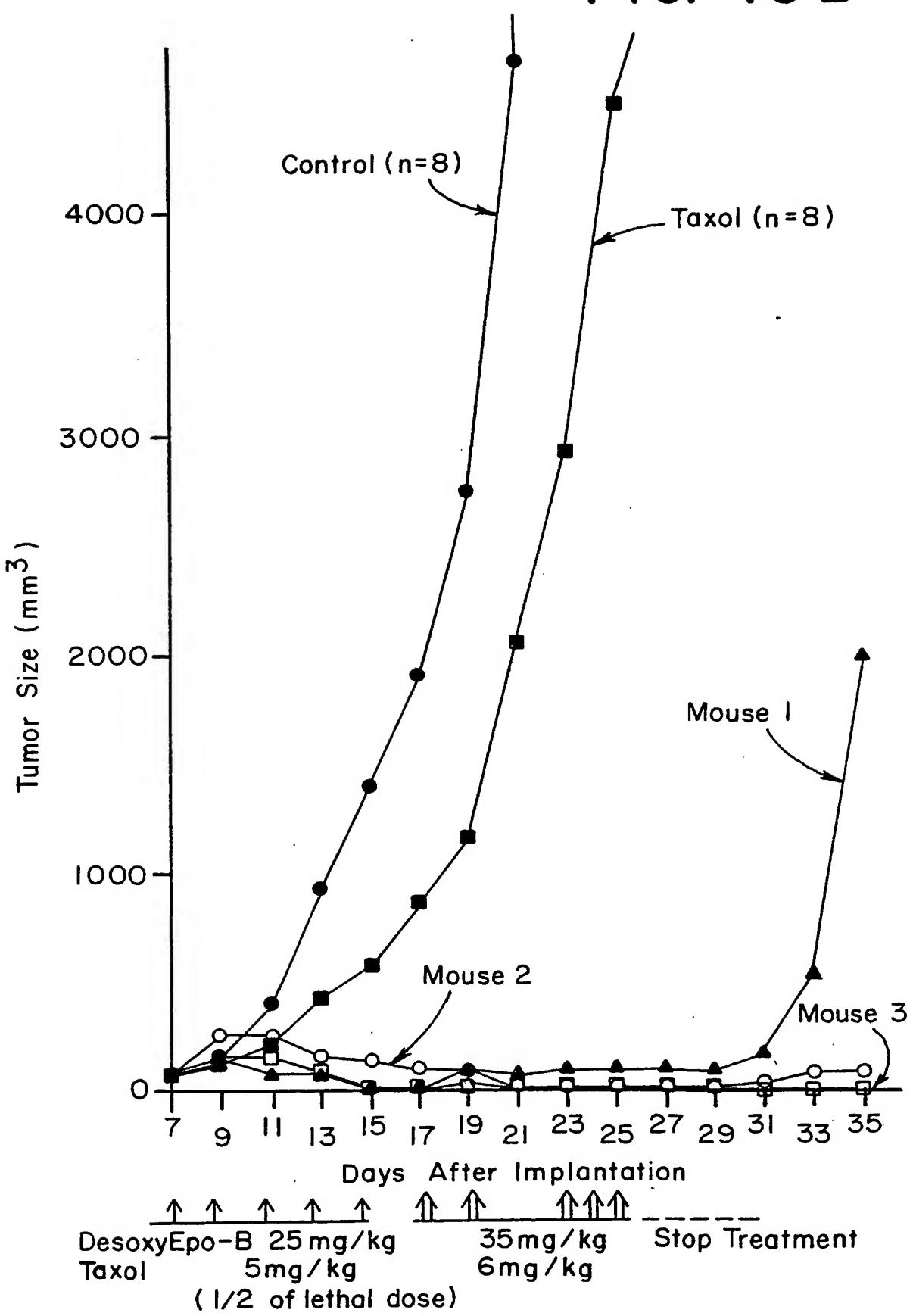
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FIG. 45A



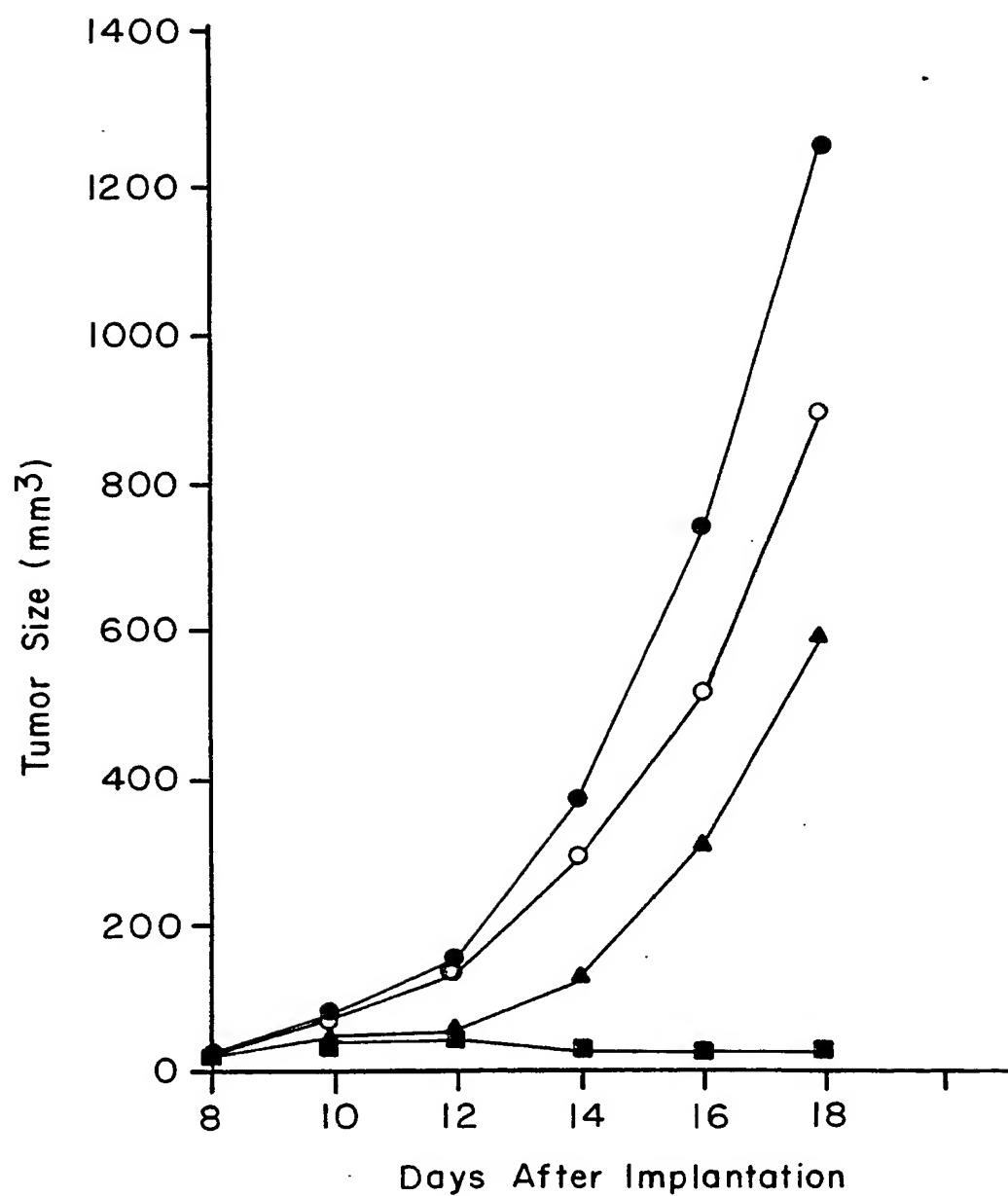
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FIG. 45 B



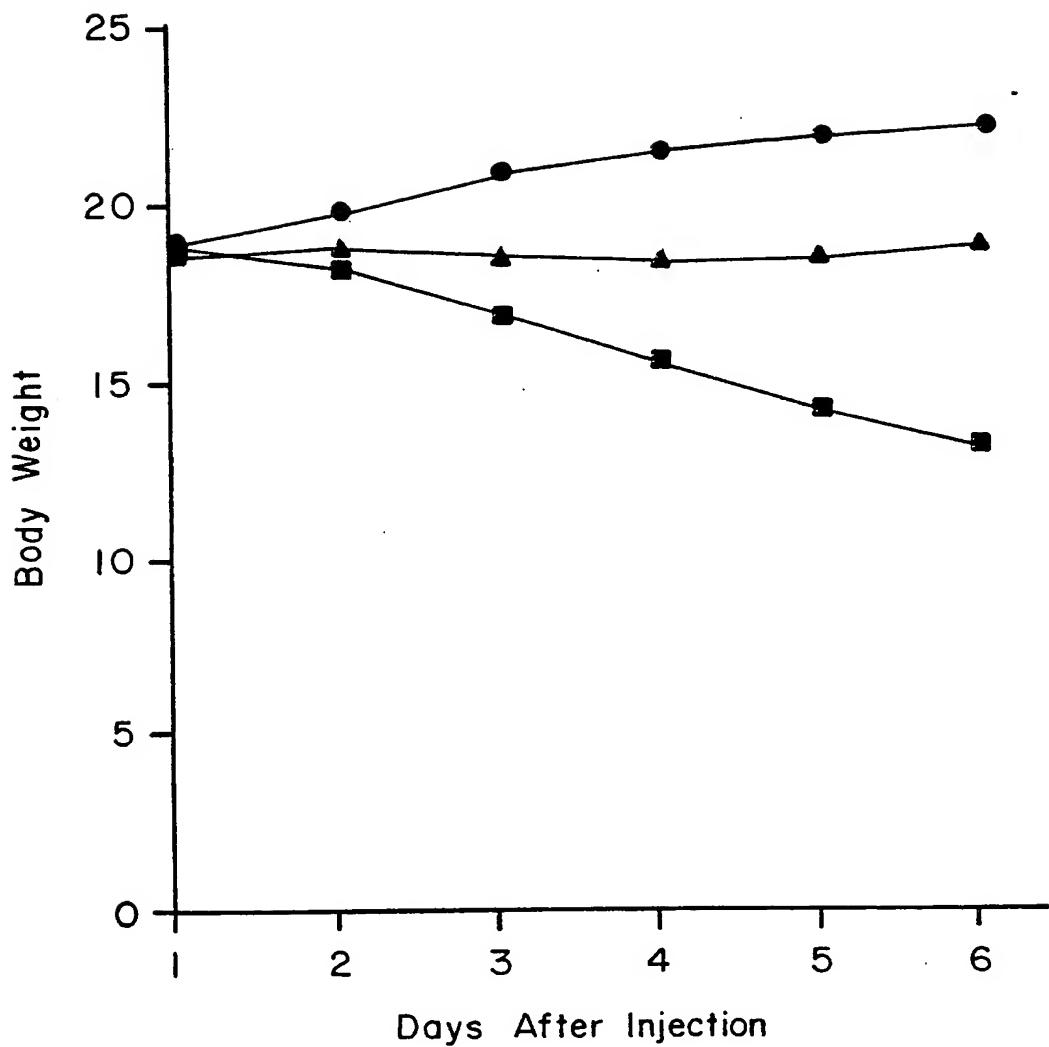
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FIG. 46



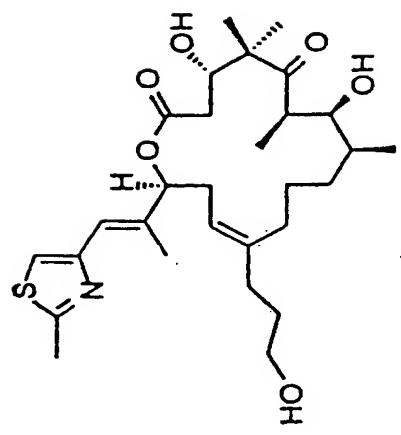
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FIG. 47

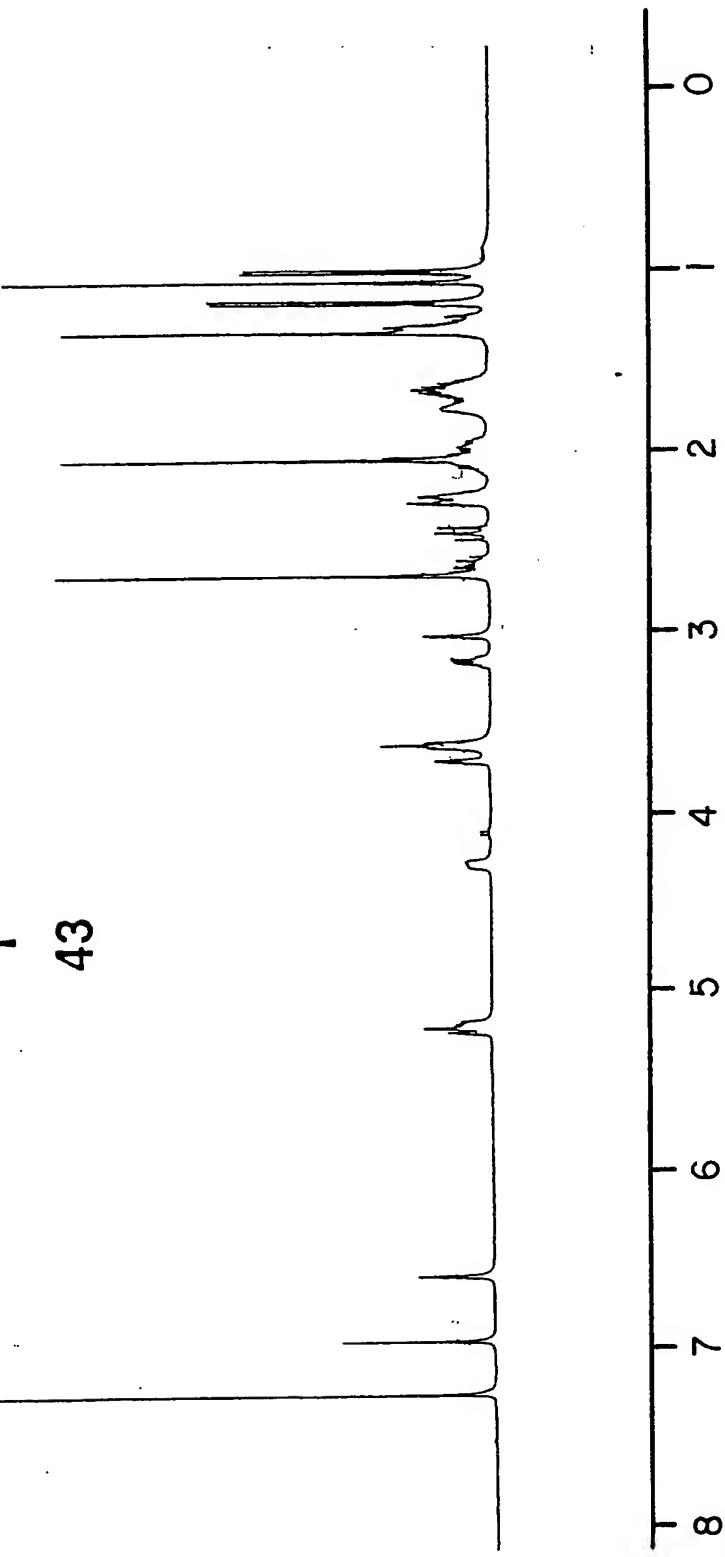


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FIG. 48.

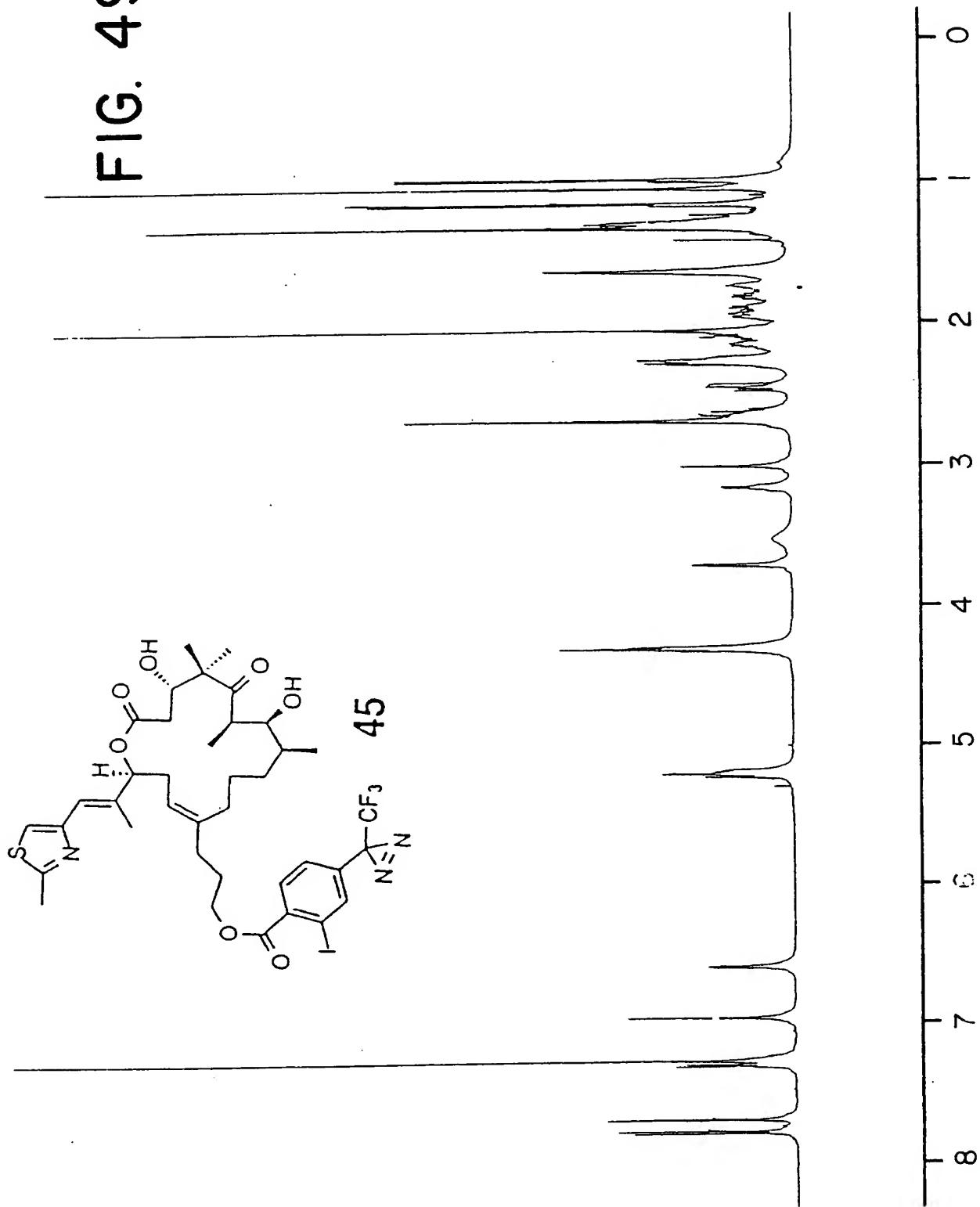


43

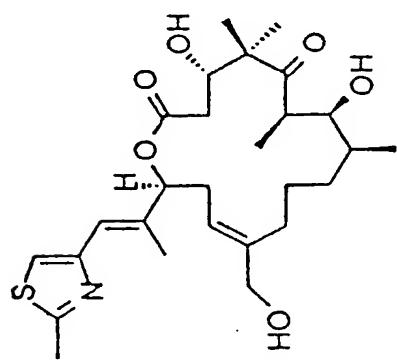


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FIG. 49

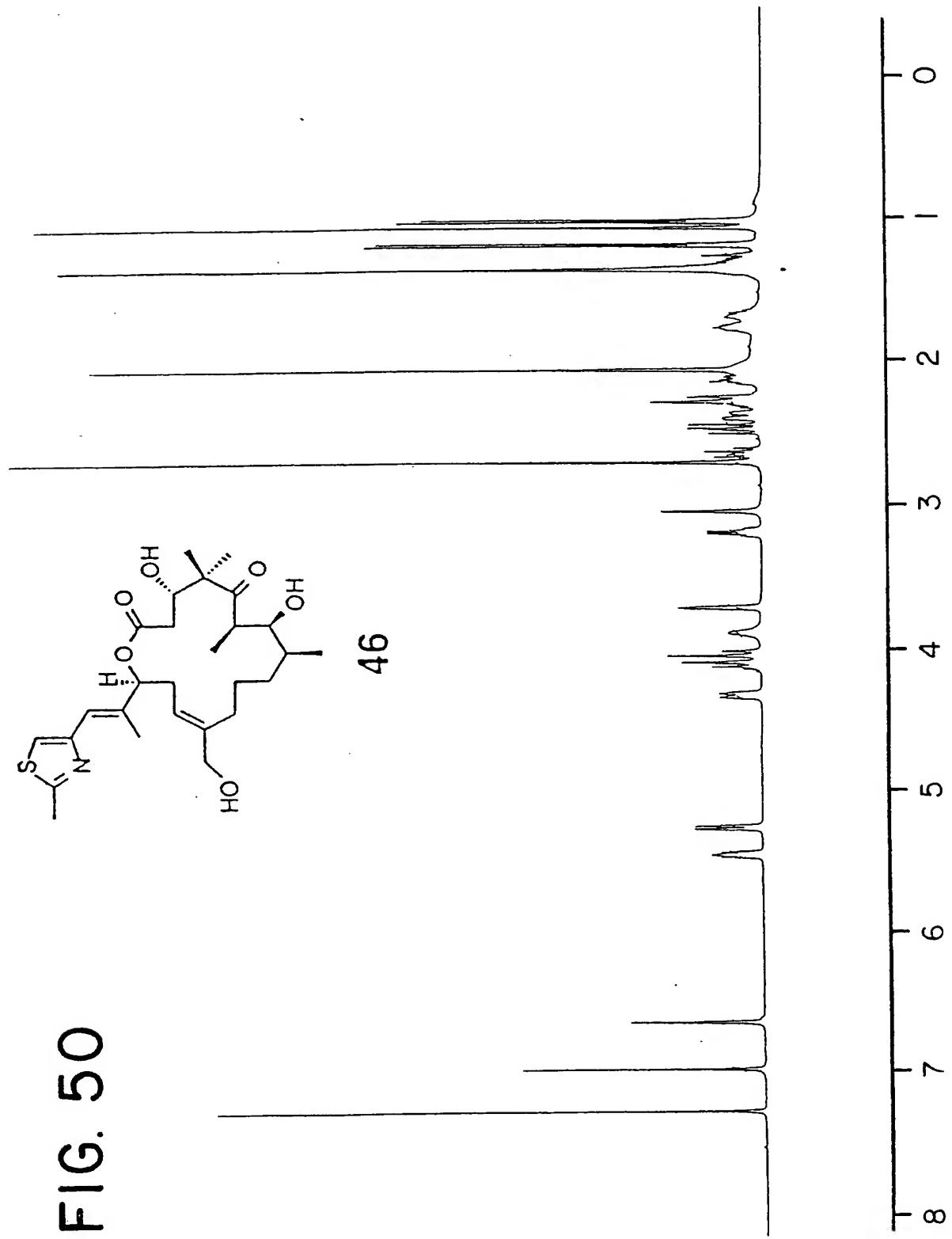


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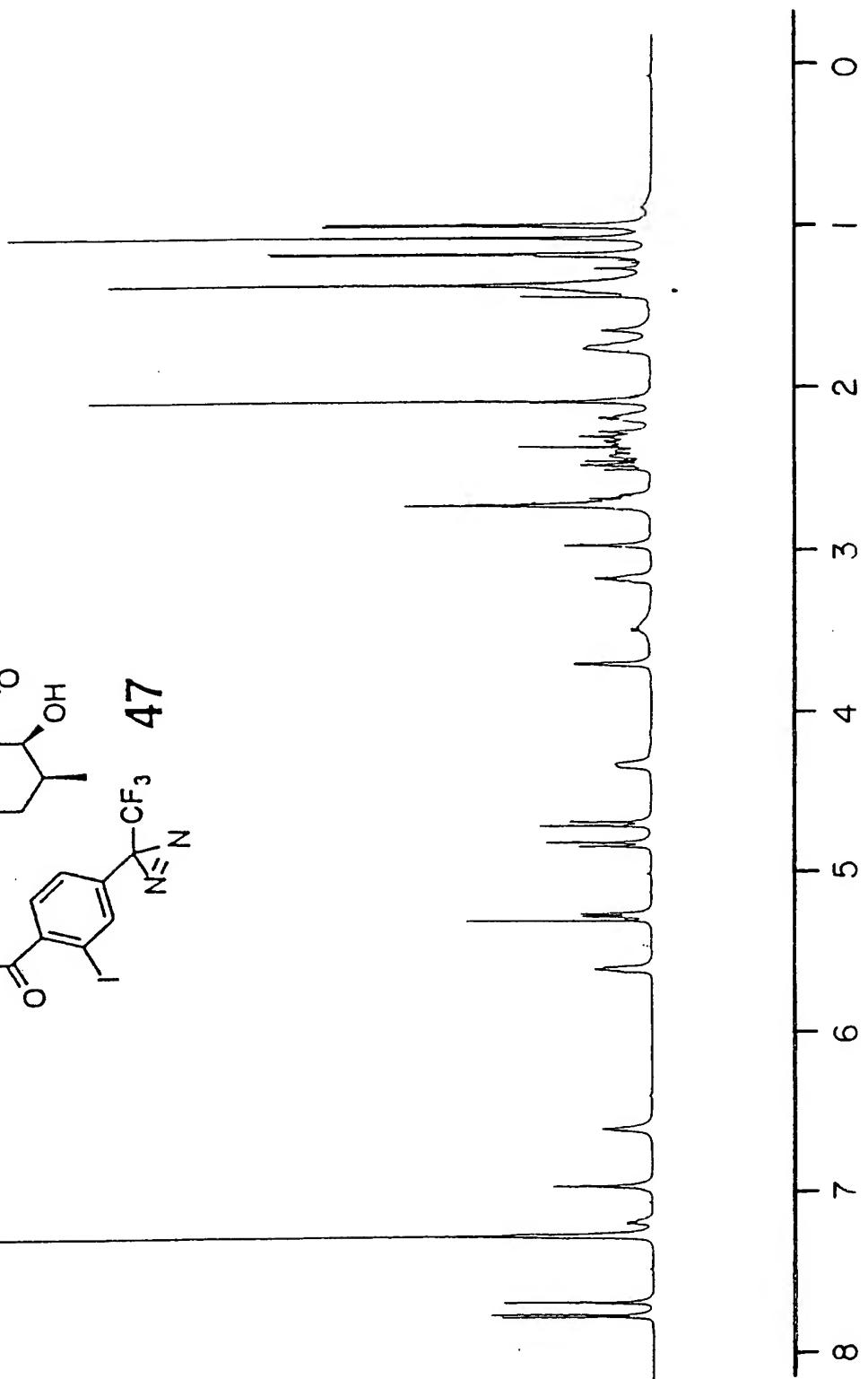
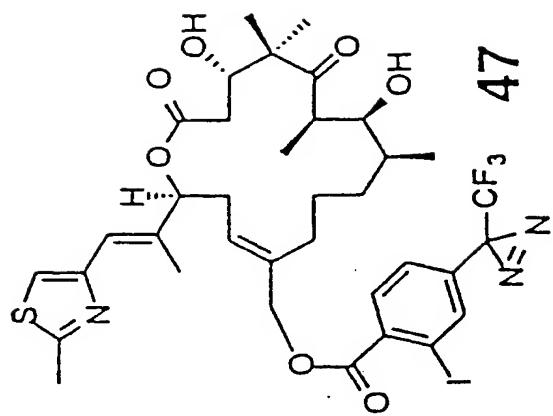
46

FIG. 50



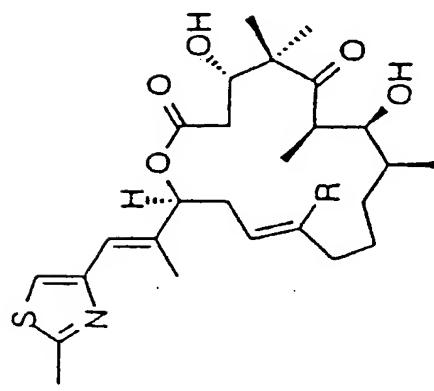
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FIG. 51



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FIG. 52



48 R =  $(\text{CH}_2)_3\text{OH}$

